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Editor: Douglas G. Woolf

"Virgin Territory"

HE HAS spent the last several years prying a certain textile company loose from under a load of debt. He has watched the price structure of the market go to pieces despite a fair demand and a sound statistical position. He has witnessed the debasement of one fabric after another, as manufacturers try to meet a price. He has seen "firm" orders weaken under the pressure of price declines, and succumb to cancellation on technicalities.

Such has been the initial textile adventure of the man whose opinion we sought on the question: "What are the prospects in this industry for a man with either technical training or sound business experience?"

We thought we could anticipate his answer. The picture he had painted for us was a gloomy one. It certainly was not good publicity material for the industry. But when he heard the question, a light came into his eyes and he said: "Why, the textile industry is virgin territory for a man with a knowledge of the principles of business management."

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We agree with him.

A lot of things have been stirring in this industry during recent years. New machinery, new methods, new ideas have been injected. But the surface hasn't really been scratched.

Too many textile companies are still managed on hunch, on tradition, on speculation, or on hope. Too many companies are in need of men who will operate them on the basis of facts, and a scientific analysis of facts.

Those men need not necessarily come from other industries. We know many a textile executive whose early training was gained under conditions long since passed, but who has adjusted himself to the new era and is now supplying as much sound business thought to the management of his company as could be bought anywhere.

Nor does this imply that the textile leaders of yesterday were pygmies in comparison with the business leaders of today. It merely means that new conditions demand a new approach.

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In effecting this new approach, sound technical and business training is playing a part. It will play a much larger part in the future. There is not only room, but a real opportunity, for the men who possess it, no matter what their background has been.

Isolated examples of men who have entered textile manufacture after successful careers outside, and have failed, prove nothing—except that the man who ignores the specialized conditions in this industry is as big a fool as the man who glorifies them.

Almost as old as the mother-in-law joke is the parental observation that "I'd rather see my son dead than in this business of mine." Although it has occasionally been difficult to refrain from agreeing with textile men who made this pronouncement, the statement must definitely be relegated to the ranks of "old chestnuts."

This industry, right now, *is* virgin territory for the alert, trained progressive man. It will be hard scratching for a time, just as it always is in "virgin territory," but the reward will be proportionately large.

Possibly the textile field could stand a certain amount of restrained ballyhoo, so that prospects may be attracted to, rather than repelled from, it.

The Week in Textiles

as Reflected in This Issue

General

New Trends in Schooling
New trends in the industry are bringing about new methods and new thinking in trade school work according to papers read at the recent meeting of the American Vocational Association in New York. *(page 27)*

Oxidation Resisting Oil
Announcement is made of a new process for rendering oils resistant to oxidation. Advantages of a textile oil having this property are described. *(page 47)*

Flax Manufacturing Problems
Most American seed-flax products are handicapped by the straw being scattered over an immense farming territory, by the fiber being over-ripe and brittle, and by a marked seasonal variation in quality. *(page 48)*

Cotton

Processing Stationery Fabrics
That the appearance and utility of cotton stationery fabrics is very largely dependent upon the skill of the finisher is becoming more widely recognized. Methods of finishing for various types are recommended. *(page 24)*

Detector Wires on Doublers
Detector wires, being important parts of doubling machines, should be carefully watched; and any accumulation of dirt, lint, or other foreign matter should be removed at frequent intervals so that the operation of the mechanism will not be impaired. *(page 34)*

Comparable Yarn Tests
A reader supplements information already published on the subject of correcting various cotton yarn tests so that they may be placed on a common basis for purposes of comparison. A testing machine which automatically reduces all tests to a basis of 7% regain is described. *(page 48)*

Cotton Up and Down
Raw cotton performs fairly well for a market in which buyers have little enthusiasm and about which many operators are distinctly bearish. *(page 55)*

Yarns Still Neglected
Cotton yarns were generally neglected this week. Buyers are running light over the holiday period and not committing themselves ahead of inventory time. *(page 55)*

Goods Without Tangible Gain
The better tone of the cotton goods market has not developed tangible improvement as yet. *(page 59)*

Wool

Woolen Yarn Calculations
A quick and easy way of figuring the grain count of samples of woolen yarn is described. Either a 50-yd. or 20-yd. length may be taken as the standard. *(page 49)*

Bigelow Plans Advertising Drive
The most extensive advertising drive in the company's history will be undertaken early in 1932 by the Bigelow-Sanford Carpet Co. *(page 33)*

Yarns Very Dull
Worsted yarns remain dull and sellers expect no change till after the turn of the year. *(page 55)*

Wools Unchanged
Scant change in the wool market has been recorded with the passage of another week. Foreign markets made no change affecting the domestic situation. *(page 57)*

Sampling Women's Wool Goods
Women's wear fabrics are being actively sampled, and mills regard the outlook promising for some real buying in January. *(page 59)*

Knitting

Elastic Fabrics
The introduction of better yarns and methods of manufacture have improved the appearance and utility of elastic knit goods. Recent developments in this line are discussed. *(page 28)*

Dark Bands in Lisle Hose
A difference in luster, due to irregular mercerizing, can easily make yarns seem a different shade. *(page 49)*

More Mills to Produce Mesh Hosiery
Extensive production of mesh hosiery during the early months of 1932 is indicated due to the strong belief of manufacturers that this will be a leading spring line. *(page 61)*

Winter Underwear in Demand
The season for heavyweight underwear is prolonging itself and mills look

The Textile Outlook

THE textile industry may achieve a Merry Christmas for itself if all of the constructive movements now afoot are pushed hard and made as effective as possible. The fact that a number of mills have been able to eke profit out of 1931 operations speaks well for their management and holds up an example to others less fortunate. Plans for 1932 have been laid and as for the most part they are based on 1931's hard experience they should prove adequate to meet any normal difficulties. Curtailment which is going into effect in the latter part of December among print cloth mills is evidence of what can be done to stabilize the market and should be a model for future operation if the need continues. Wool goods men look for a freer opening up of spring business after the holidays, though here also the doctrine of curtailment must be preached. The silk trade is disorganized because of the slump in raw material but the best that can be said is that present low basis offers a chance for greater volume of spring trade. Knit goods mills met a disappointing holiday trade but spring retail movement may be proportionately greater because wardrobe curtailment cannot go on indefinitely.

for fair buying through January; fair spot call for lightweights. *(page 61)*

Swimsuits Show Seasonal Drop

The usual holiday lull is reflected in the drop in demand for bathing-suits and mills are relying on January to bring an acceleration of sales. *(page 61)*

Silk

Testing Fastness of Dyeings

The testing of dyeings on spun-silk hosiery yarn for fastness to peroxide bleaching and boil-off is often necessary. Tests which have given satisfactory results and which might well be adopted by dyers and consumers of this type of yarn are outlined. *(page 30)*

Raw-Silk Classification

Results of extensive research are presented to show that the Japanese composite grading and the tentative method adopted by the committee of the Silk Association of America in June, 1931, fall short of their ideal. *(page 36)*

Weakness in Silk

Continued weakness in raw silk is expected by Dr. L. H. Haney writing in this week's TEXTILE WORLD Analyst. He says, "The unfavorable statistical position together with weak demand and disturbed financial conditions here and in Japan, make further recessions in raw silk prices probable." *(page 51)*

Silk Drop Follows Gold Embargo

Abandonment of the gold standard by Japan made the yen very unstable and silk prices fell below the $2.00 level this week. Prospects point to continued low levels until year-end, after which Japan may adopt inflationist program. *(page 32)*

Spun Yarn Steady

There is a fair call for spun yarn from wool goods and underwear mills but broadsilk mills are not buying; thrown silk is quiet. *(page 57)*

International News Photos

Russian Automatic Silk Loom

THE fact that the American silk industry has not taken wholeheartedly to the automatic loom has not apparently discouraged the Russians. Here is shown a new magazine for automatically inserting filling cups into the shuttle of a silk loom to be installed with 399 others in the new textile mill to be called Red Rusa. Although no details of the invention are available, it appears from the photograph to be a modified form of the bobbin changer familiar to the American industry. The magazine, however, does not revolve, the quills apparently slipping down between two grooved arcs under the pressure of a weighted arm operated through a ratchet. The inventor, an engineer named Asaforov, is shown with his device.

Fabrics Enter Christmas Lull

Price clearances by firms anxious to liquidate for inventory are the chief activity in broadsilks, the market generally being in a holiday lull. *(page 59)*

Throwsters Plan Research Institute

Plans for formation of a Throwsters Research Institute to study and seek solution for chief ills of silk-throwing industry have been shaped by mills representing at least 50% of that industry. *(page 64)*

Rayon

Bone-Dry Weight

The determination of the point at which rayon may be considered as bone dry should present no difficulty. *(page 49)*

Warp Streaks in Crepe

The development of warp streaks in rayon crepe is laid to irregular stock, or heavy ends. This defect should be easily detected at the loom. *(page 49)*

Rayon Sought for Crepes

Rayon yarn is being bought for crepe manufacture and this is the main demand. *(page 57)*

Processing

New Wetting Agents

Properties and uses of new wetting agents made from a rosin base are described. Suggested tests for determining the relative values of different wetting agents are outlined. *(page 31)*

All-Metal Dye Kettle

A dye kettle designed to give results comparable to glass-beaker dyeing is announced by a well-known machinery manufacturer. *(page 46)*

The Business Outlook

CURSED with its customary calendar complex, business seems bent on taking one more bellywhopper to the bottom of the hill to see how far it can go before the midnight whistles blow on Dec. 31. The securities markets have settled themselves on the same toboggan; even Congress is engaged in a last snow-ball and mud-slinging frolic before scattering for the Christmas armistice; and all important issues here and abroad subside into a state of suspended animation until the enigmatic 1932 emerges. Almost all business indicators show intensification of the usual year end slackness, and retail trade less than its customary seasonal stimulation. Tax-selling, annual window-dressing and distress liquidation have converted securities markets into rummage sales at which even a second-hand teddy-bear would be ashamed to be seen. Japan starts the New Year right by sliding off the gold standard, leaving a dwindling handful of the faithful to carry their golden cross until the inevitable conference is called to consider means of restoring monetary sanity. The reassuring steadiness of some key commodity prices is an almost solitary star shining among the discouraging Christmas statistics.—*The Business Week.*

Processing Stationery Fabrics

Taxes Skill of Cotton Finisher

By Ray Cottrell

ALTHOUGH cotton stationery first made its appearance several years ago, at that time it did not attain any great commercial success—partly on account of cost, but mainly as a result of lack of technical knowledge. About 18 months ago the matter was given serious consideration at the suggestion of the Cotton Textile Institute, and since then over a dozen concerns have been successful in their efforts to produce a satisfactorily finished cotton stationery. Recent estimates indicate that three to four million square yards of this material has been used in this country alone. At first sight, this figure may appear to loom large, but it is almost infinitesimal when compared with that for the consumption of ordinary paper stationery.

At present the market for the new material is confined largely to concerns in the textile industry or allied with it; but cotton stationery is of such quality and so reasonably priced that all users of stationery will undoubtedly profit by its inclusion in their supplies. However, the prevailing low price of cotton has been an important factor favoring the use of cotton stationery; and the future of this material is dependent on the continued reasonably low price of cotton, coupled with the development of improved (possibly continuous) methods of finishing, and, of course, adequate advertising.

In similarity to most other novelties, whether textile or otherwise, which are hardly released before cheap and inferior imitations inundate the market, cotton stationery of very poor quality has already appeared. Although the samples brought to the writer's attention were undoubtedly evolved to meet a price, they are not a credit to the industry or to the art of finishing. Nor indeed do they even resemble stationery. Such examples may prevent the success of this new branch of cotton finishing; and it is hoped, for the benefit of all those concerned, that the standards for cotton stationery will be established around fabrics similar to those illustrated in Fig. 1. It will be noted that proper finishing methods enable production of stationery of satisfactory quality from fabrics of various constructions, the upper sample having a count of 80x80, that in the center a count of 48x48, and the lower a count of 64x40.

Requirements for a good-quality cotton stationery are as follows: First of all the fabric must be free from blemish, such as overshots, snarls, coarse ends, bunched filling, mispicks, reediness, etc.; as no matter how perfect the finishing process may be, it cannot cover faults due to improper yarn preparation or weaving. In addition, neither waste nor coarse cotton should be used, as the constructions employed in cotton stationery may be as high as 96x92. Furthermore, the yarns employed may be as fine as 60s or 50s, the filling generally taking the finer count.

In Fig. 2 is illustrated an imported sample counting 88x88 and containing 50s filling yarn spun from middling $1\frac{1}{8}$ in. Texas-Oklahoma hard staple, and a 40s warp yarn from middling $1\frac{5}{32}$ Memphis Benders staple. The finished width of this fabric is 40 in. although the bulk of cotton stationery fabric is woven to finish 36 in., and lower grades occasionally are finished to 26 in. Practicaly all business letterheads, circulars, etc., are required to be white, although copy or second sheets are frequently tinted in fashionable shades, as also is stationery for private use.

Characteristics Desired

The process of finishing, to be successful, must confer the following properties on the fabric: (1) The interstices between threads must be completely filled, the added material being of such a nature, and applied and treated in such a way, that the entire surface is rendered sufficiently smooth and hard to enable either type- or pen-written script to be made easily and legibly. (2) The surface of the finished material must be such that it will allow the ink to be applied without any tendency to spread or halo. This surface should also permit the use of ink erasers without forming unsightly marks.

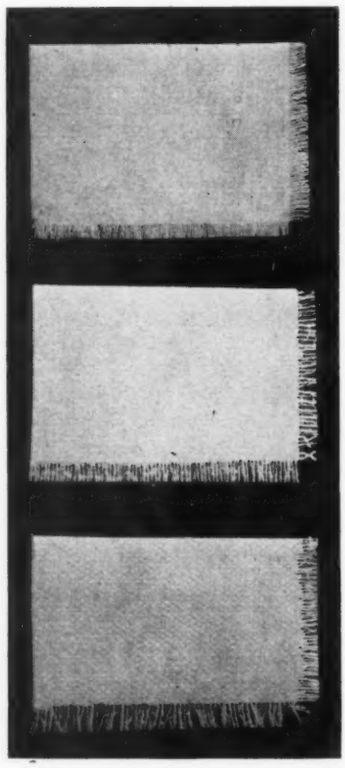


Fig. 1. Cotton stationery of satisfactory quality, illustrating manner in which proper finishing methods permit use of cotton fabrics of various constructions

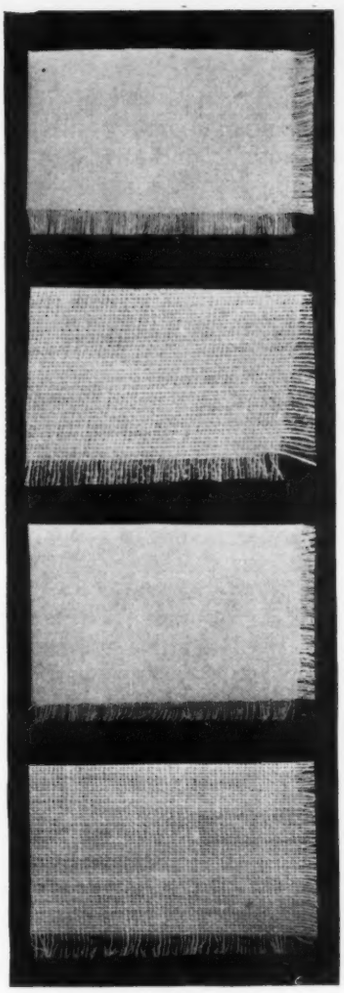


Fig. 2. Failure to singe both sides of the fabric has marred a sample of imported stationery which otherwise is of good quality

Fig. 3. For some purposes fabrics of comparatively low count and not heavily loaded with mineral filler prove satisfactory

Fig. 4. High-grade stationery cloth counting 96x92 and heavily starched and filled

Fig. 8. Cotton stationery finished without mineral filler

(3) The product must possess the correct degree of stiffness, being neither too boardy nor too limp. A crisp handle with a pronounced crackle should be obtained.

Stationery cloth is bleached much in the same way that the better classes of broadcloth, sheeting, and similar fabrics are processed. It is essential that this material should be singed cleanly on both sides, although the imported cloth shown in Fig. 2 is singed and finished on one side only. In the writer's opinion, although this style may offer considerable economies in the cost of finishing, the hairiness of the reverse side, together with its consequent tendency to soil, is a feature which would scarcely be tolerated by business houses in this country. After the fabric has been singed and desized, it is customary to give cotton stationery cloth two caustic boils to make sure that all motes, seed, etc., are removed. Goods of lower quality, such as illustrated in Fig. 3, when properly finished, are satisfactory for many purposes. These fabrics may be given one caustic boil only, but in this case it is recommended to give a preliminary warm acid steep. Comparison of this sample shown in Fig. 3 with the center sample in Fig. 1 shows clearly the manner in which the finishing process determines the character of the stationery, as both fabrics count 48x48. Following kier boiling, the goods may be bleached in the usual manner with sodium hypochlorite, soured, and rinsed thoroughly.

Several plants are using a peroxide bleach for this kind of work, it being asserted that this method has certain advantages and that better widths are obtained.

The goods after bleaching are water-mangled, stretched to gray width, and dried on the tenter.

At this point it is essential that all ends be pasted, and not stitched together; otherwise in subsequent operations sewings would be cut at the nip of the friction mangle; and in addition, marking of the wooden bowl would ensue.

Preliminary Starching

The bleached cloth is now given a preliminary or foundation starching. This is accomplished on the ordinary two-bowl (rubber and brass) starch mangle fitted with an immersion roller.

In this manner the cloth, in passing through the pure starch and out through the nip, is starched on both sides in one run. For a mix of 150 gal., the pure starching for the cloth illustrated in Fig. 4, should consist of 60 lb. of potato starch and 15 lb. of paraffin wax, to which may be added 5 oz. of blue, according to requirements. Many finishers omit the wax in this operation and include it in subsequent heavier friction fillings. After padding through the nip, the goods are run on a slip-belt batcher and then are stretched to gray width and dried on the tenter.

The cloth is now ready for the heavier filling, which is applied in a friction mangle. One type of machine specially adapted for this style of work is the Scotch mangle. This machine consists essentially of a 10-in. cast-iron roller having a 2-in. brass jacket, and a 22-in. wooden roller. The latter, which is the lower roller, should be constructed of maple, free from flaws. Rollers with a working face of 50 in. which will handle material up to 45 in. wide are recommended.

The top roller is the driven member, and has a considerably higher peripheral speed than the lower one. It is this higher speed of the brass roller which is responsible for drawing the filling into the nip and grinding it into the cloth. The lower roller is prevented from revolving at the same speed as the brass bowl by means of a system of gears on the two shafts.

By altering these gear ratios it is possible to vary the amount of filling which can be "frictioned" into the cloth. The speed at which the fabric passes through the

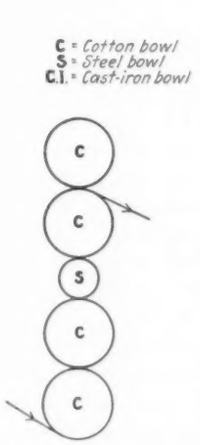


Fig. 5. Five-bowl calender for finishing cotton stationery

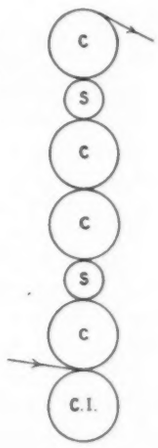


Fig. 6. Seven-bowl calender arranged to give equal glaze on face and back of fabric

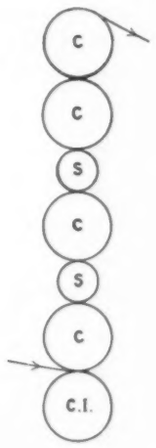


Fig. 7. Seven-bowl calender arranged to give pronounced glaze on one side of fabric

mangle corresponds to the speed of the wooden bowl. For the sample illustrated in Fig. 4, the ratio between the speeds of the upper and lower rollers, or slip as it is frequently called, was six to one. It is highly essential that the brass roller be kept free from starch. Any accumulation of this material on the brass roller will cause the cloth to slip, crease, or nip; and may finally end in actual cutting of the fabric. To prevent such a possibility, the brass roller is equipped with a brass doctor blade or flannel cleaner.

In order to avoid the accumulation of dried starch on the edge of the doctor blade it is usual to maintain a water filler or band between the upper surface of the blade and the brass roller. This will cover the roller with a film of water, which, instead of causing nipping as might be concluded, will actually increase the drag between the cloth and the brass roller. A heavy, square-sectioned, 6-in. wooden tension bar should be placed in front of and above the nip so that the cloth passes over the bar and down into the nip. Use of this tension bar will prevent nipping and will also tend to neutralize any uneven motion of the slip-belt batcher with its resultant streakiness. A fluted wooden roller revolving in the trough will insure a uniform supply of starch to the nip.

Filling Operation

After the pure starching indicated above, the following was used in "frictioning" the sample shown in Fig. 4: 110 lb. cornstarch, 80 lb. talc, 80 lb. China clay, 65 lb. satin filler, 12 lb. paraffin wax, 45 lb. softener, and 8 oz. blue, according to requirement. This mixture is made up to total 150 gal. It should be mentioned that all of the mineral fillers should be of good quality, free from grit, and reasonably low in iron content. The method of preparation of a heavy filling is equally as important as the amount of each component. The procedure is as follows: The china clay, talc, and satin filler are made into separate stock suspensions in the clay mill, the requisite amounts of each being drawn off as required. To these are added the softener and the creamed cornstarch, and the mixture is thoroughly agitated at 150° F.

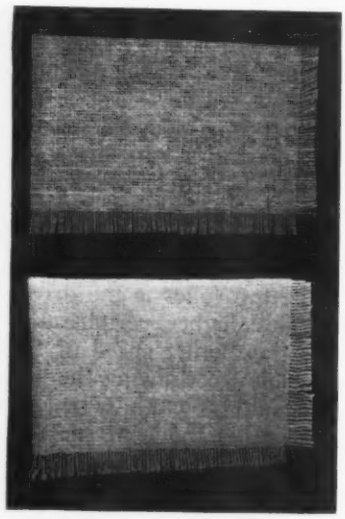


Fig. 9. Samples showing manner in which unsuitable finishing methods may result in pin holes

The melted wax (or cocoanut oil) is then added, and the whole brought to the boil and boiled for 10 min. In order to prevent the wax from solidifying, and thus causing streakiness, the mangle should be filled with boiling water and turned over for a few minutes to warm the bowls before starching is commenced. The cloth passes over the tension bar, straight into the nip, and over a copper idler roller onto the slip-belt batcher.

It is necessary to resort to the latter means of delivery on account of the tendency of a filling of this nature to pluck. The cloth is then dried on the cans and again run through the friction mangle, this time starching the other side. The goods are can dried as before, damped, and calendered on a five-bowl calender, four nips all weight, as shown in Fig. 5. The cloth is then backfilled on each side in turn with the same filling as used for frictioning, drying after each operation.

It is essential, in order to avoid creasing and cracks, to keep the cloth on rolls after every operation at this stage.

Although the fabric illustrated in Fig. 4 was finished in this manner, many finishers follow the first frictioning and calendering with two more runs on the friction mangle, one on each side—and, of course, drying between runs as before. Other plants substitute a second pure starching at this stage.

Calender Imparts Glaze

The fabric shown in Fig. 4 was then spray damped and calendered on the seven-bowl calender, four nips hot, as illustrated in Fig. 6. This arrangement glazes both sides of the cloth equally. A more pronounced glazing effect can be obtained on the seven-bowl calender by changing the order of the bowls, as shown in Fig. 7. Two runs, one on each side, are necessary in this case.

An alternative method is to run twice through a three-bowl swissing calender (two steel bowls and one paper), back and face. If this procedure does not give sufficiently smooth a finish, it may be necessary to put the friction gear in and run the fabric twice cold, having cold water running through the top steel bowl.

Fig. 8 shows a sample of cotton stationery of lower construction. This material, which is woven 39 in., 64x 48, to finish 36 in., is finished without frictioning. The gray cloth is well singed on both sides, given two caustic bowls, and bleached. The bleached fabric is then water mangled, stretched to 39 in., and dried in the tenter. The filling for this cloth is applied in the two-bowl starch mangle. In this case the cloth runs straight into the nip; and therefore the back and face must be starched in separate runs.

As before, the starched cloth should be batched on rolls. The mixing for this fabric was: 60 lb. wheat starch, 10 lb. coconut oil, 8 lb. turpentine, and 4 oz. blue as required. These ingredients are well stirred with 20 gal. of water, the mixture diluted to 12° Tw., is brought to the boil, and boiled for 15 min.

After batching, the cloth is can dried and given a run on the reverse side through the same mixture. The material is again can dried, damped, and calendered, three nips hot, on each side.

A mechanical test for the efficiency and uniformity of the operation is furnished by the micrometer. The thickness of the sample shown in Fig. 7 should be 0.006 in. The sample illustrated in Fig. 4 should have a thickness of 0.005 in.

The result of unsuitable methods of finishing is illustrated in Fig. 9. It will be noticed that the fabrics are full of pinholes.

A moderate percentage of cotton stationery is made by coating the bleached cloth with regenerated cellulose. This type of coating is produced by first impregnating the fabric with viscose "dope," and regenerating the cellulose either by steaming or souring. The process involves padding for the lighter fabrics, or impregnating through tanks fitted with squeeze rolls to remove excess dope for heavier fabrics. The impregnated cloth is slowly dried on the tenter at about 145° F., the maintenance of sufficient uniform tension being essential to prevent uneven shrinkage of the coating and the formation of creases. The fabric is then steamed and washed while still under tension to remove caustic soda and other impurities, dried, and calendered.

New Conditions Affect Trade School Methods and Thinking

DESCRIPTION of foremen's conferences courses followed by a trade school, the new phase of competition, and the statement that textile schools should give more time to biology, were among the features at the meeting of the textile session, American Vocational Association, New York, Dec. 12.

The meeting opened with the paper by Douglas G. Woolf, editor TEXTILE WORLD, on "Some Significant Trends in the Textile Industries" which was published in last week's issue.

H. V. R. Scheel, vice-president, Botany Worsted Mills, Passaic, N. J., next on the program brought out an interesting point in relation to competition. There are, Mr. Scheel said, five stages in competition which could be described as follows:

1. Chance for monopoly profits simply because of being in business at a certain place. The first country store in a town is an example. The public encourages competition.

2. Chance for monopoly profits because of an article. Patents may protect the article, but the public will encourage imitations, and the patent laws do not afford protection forever.

3. Chance for monopoly profits because of scientific management in production. Once more the public will say that it is alright, but will encourage others to adopt like methods and thus compete.

4. Chance for monopoly profits because of cleverness in distribution. Public encourages others to compete.

5. When the previous four stages have been passed the cumulative competition is so great that no one can make any money. The difficulty lies in the fact that both the public and the manufacturers are still competition minded. The public still encourages competition and the individual manufacturer still thinks that it is his privilege, regardless of all the others, to run full all the time, and thus prices are slaughtered.

In addition to speaking on the general economic situation Mr. Scheel spoke of the methods of handling foremen's conferences at the Botany plant. His address follows, in part:

"On some occasions during a foremen's conference the results of an analysis of certain problems shows that some one has done a poor teaching job. Although the responsibility for teaching belongs to the foreman, we find that he is seldom prepared to do the job in an organized way. Usually, this is not a fault of the foreman. The average foreman in a plant holds his job because of his practical experience and length of service; the opportunity has never been given him to learn that there are certain definite, fundamental principles involved in teaching, nor has any one pointed this fact out to him.

"It is recognized that if the foreman is to do his teaching job effectively, he must have some understanding of the underlying principles of learning as well as the teaching steps of a lesson. He must appreciate the need for a proper attitude on the part of both teacher and learner before effective instruction can be carried out. Furthermore, the foreman must develop the ability to analyze production jobs, dividing and classifying them into teaching order.

"There seems to be an increasing interest on the part of the foreman in this type of training in connection with the regular foremen's conference. The training of foremen on teaching methods and teaching responsibilities has been carried out with a two-hour period once a week and usually takes about twelve weeks. The number of meetings depends upon the attitude of the group and the amount of discussion which takes place."

J. C. Echmalian, principal of the South Manchester Trade School, South Manchester, Conn., spoke of the different types of courses which were given and stated that their problem was made much easier by the splendid cooperation of Cheney Bros. The trade school has a complete silk mill and one of the features of the whole work, as mentioned by Mr. Echmalian, is a desire to teach something of the beauty of the finished fabric, rather than just the hard, mechanical work. Of particular interest is the cooperative course, where students spend part time in high school, part time in the trade school, and part time in the Cheney Bros. plant.

In discussing some of the papers, William Dooley, principal of the Textile High School, New York, asked why it was that textile schools and colleges did not teach more biology. According to Mr. Dooley the finished fabric depended so much on the characteristics of a raw material taken from plants and animals that it certainly seemed worth-while to spend more time on the subject. Other subjects which he believed to be inadequately covered were distribution and the uses of textiles. Mr. Dooley said that with conditions as they are today it is essential that students have a better knowledge of distribution, and that teaching the uses of textiles would have an enlightening and broadening effect.

Leading further discussion, P. J. Wood, vice-president, Oriental Silk Printing Co., Paterson, N. J., and president of the American Association of Textile Chemists and Colorists, stated that he believed that the statement, "competition is the life of trade" should be changed to "cooperation is the life of trade." Among the other difficulties confronting the industry Mr. Wood pointed out the tendency to give away any savings which have been made through more efficient production, making a fetish of mass production, and misdirected salesmanship.

Better Yarns and Methods Improve Elastic Knit Goods

By William Davis, M. A.

THE use of rubber yarn in connection with various branches of the knitting industry is not new. For some years there has been a gradual growth in such application, particularly with respect to special articles, such as bandages for certain ailments of the limbs, and in items such as women's corsets.

The elastic stocking has been known for some time as a convenient means of repressing varicose veins in contrast to the laborious method of winding and unwinding bandages, and it has proved a great boon for this special purpose. The knitted bandage has the advantage of being rapidly removed and put on. The pressure is persistent over the whole area and does not slacken. It is also more bearable than the pressure of a bandage, which varies with the strength and skill of the person who is applying it. Lately a further merit has been ascribed to it; when skirts became shorter it meant that a larger number of wearers had cause to obscure the state of their limbs. At the same time they desired to be in line with the times and to wear the latest creations in fine-gauge silk stockings.

The producer of elastic stockings found it desirable to improve the general appearance of his products; and, in place of being dull, dowdy, and thick, he changed the covering of the rubber core to new and fashionable shades—thanks to rayon and its sheen. The method adopted is for the rubber yarns to be covered in a range of shades which will correspond to the color of the hosiery, so that these stockings can be worn under the silk article without observers being made in the least aware of it. This has proved a wonderful help to many thousands, enabling them to conform to the current vogue without anyone being aware of their physical defects. In such productions the rubber yarn is used in conjunction with ground yarns, the usual proceeding being to make a division among the stitches. In plain fabrics, for example, stitches 1, 3, 5, etc., are raised; and stitches 2, 4, 6, etc., are lowered in a kind of shed to enable the rubber thread to be inserted in the inside of the fabric. A course or two of plain ground fabric is then made with odd numbers raised, the alternative shed being made with stitches 2, 4, 6, etc., raised and the odd stitches depressed to allow for the insertion of the rubber yarn in this position. The same division can be used at each insertion, but this makes a definitely marked rib in the direction of the length. When the alternating method is adopted, there is a spreading of the points at which the rubber yarns shine through, and the general effect is a more even appearance.

Plain Stitch Preferable

Such fabrics are most conveniently made in the rib stitch, where the machine is arranged to have one needle in the upright cylinder alternating with one needle in the horizontal dial. In this case the division already exists, so that all that is required is to lay the rubber auxiliary between those two divisions of needles. The rib stitch, however, is naturally thicker and heavier than the plain, so that such fabrics tend to be stronger and bulkier than is necessary for most purposes; and the plain-stitch ground is still the most suitable for general purposes of clothing. In the plain stitch, the alternate method of insertion of the rubber yarn is not always adopted. In certain articles, for example, the birds-eye system is used for the ground; but near the finish or border, the rubber can be laid into the same shed for an inch or so, which imparts an ornamental termination to the article and gives a more definitely finished appearance.

Several important developments are taking place at the moment, which are likely to exert far-reaching effects on the further development of the knitting industry. In the past, the use of rubber has been mainly confined to the restricted branches just mentioned. For example, knitted corsets are much used in preference to those types in which the support to the wearer is obtained by the insertion of metal or bone strips, which are easily broken, causing injury and discomfort. There are also types in which the use of springs is adopted in a degree similar to the ancient coat of mail. In the knitted corset, the rubber material can be inserted in the areas required, being thrown in and out of knitting quite readily. There is also the gentle, persistent pressure of knitted rubber in contrast to the definite, hard pressure exerted by steel strips and springs. The action of the rubber yarn does not interfere with natural movements of the body.

Fig. 1. Outer layer of rayon improves appearance of thread

Recent Developments

In recent months, however, there have been further important developments in rubber technique which are likely to have far-reaching effects on the future development of many grades of knitted goods of ordinary every-day use.

The aim is to break loose from the necessity of wearing so many items of the suspender class. Development in this direction has been somewhat re-

stricted in the case of under and intermediate garments, owing to the difficulty in laundering those articles, for the rubber always softened or melted when subjected to the high temperatures of washing. It also emitted an offensive odor in such instances.

At this stage the inventor has come along with types of rubber which are guaranteed proof against softening or damage in boiling, this being popularly known as boil-proof rubber. This means that rubber yarns can be employed in normally knitted and frequently washed garments without danger of their being softened or melted; and in several types of garments such yarns are inserted at such points as the waist or the top of the leg of a stocking or sock, where they exert sufficient pressure to hold the article or garment in position. An example of the use of rubber yarns in this connection is in their application to shorts for men's wear, where the grip of a rubber band knitted at the waist obviates the use of an extra belt. Rubber yarns are also being knitted with the rib fabrics used so largely in the waist portion of bathing costumes, so that the extra braided rubber belt—at present inserted by stitching—is not required. It is also being used for men's socks and for women's stockings at the rib tops, causing these parts to exert uniform pressure, which is preferable to the definite local pressure of garters. Rubber portions are part and parcel of the article and involve no extra attention in fastening or unfastening.

Fig. 2. Rayon and cotton yarns are twisted in opposite directions to insure complete coverage

Yarn Construction

Such yarns are mostly constructed on the following principle and are of three portions:

(1) The rubber core, which is usually of square cross-section. The count of the rubber is determined by measurement of its diameter, expressed in fractions of an inch. Thus, 60s rubber will have a cross-section of 1/60 in. Now, however, rubber cores are being made circular in cross-section, so that this method of giving the counts, although still used, obviously does not convey equal meaning as regards the weight of the material.

(2) Next to the rubber core are the threads which provide the first covering of the rubber; and these are commonly of fine cotton counts, there being usually three threads of, say, 60s single cotton counts, wrapping around the core in such density that it requires over 6 in. of thread to cover 1 in. of rubber. This twist is generally inserted with the angle running upward toward the right.

(3) On the first layer of covering is then superimposed a second layer with a similar density of take-up, there being over 6 in. of yarn to a single inch of rubber; and this is inserted with twist in the reverse direction. This is the outer material which meets the eye and is usually of the better grade. Mercerized cotton, rayon, or real silk are generally chosen for this part; and care is taken in dyeing, as attractive and fashionable shades are necessary for many purposes today in this branch of the industry.

When the rubber-core yarn is stretched, the ordinary varieties will extend to about twelve times their initial length before fracture occurs. Fig. 1 gives a view of a typical rubber-core yarn of the kind just described. The three elements are unwrapped and separated at the top of the figure, the thread on the left being the outside covering, which in this case is of three-ply rayon yarn. On the right will be seen the lower covering-thread of three-ply single cotton; and in the center is shown the rubber core, which in this case is of the dark, characteristic rubber color. In Fig. 2 is given another view of the same thread with the rayon covering-yarn drawn out on the left, while the two remaining elements, the cotton covering-yarn and the rubber core, are stretched somewhat to give the effect of a marline. The result of this twining of the covering materials in opposite directions is to completely obscure the rubber core, even when it is considerably stretched, so that the inner rubber material is never seen by the ordinary observer.

Fig. 3. Recent developments facilitate production of fine-count core yarns

Fig. 3 represents the structure of one of the most recent achievements in regard to rubber knitting yarns, where a successful effort has been made to bring the threads in line with the modern trend of fine-gauge textures. The color of the core is normally white, and it is of fine, circular end-section. The rubber count is 100s, this meaning that one hundred such threads can be laid side by side within the space of an inch. The center of the three elements is the rubber core. On the left there are the upper covering-strands of fine, two-ply, white cotton; and on the right are two cotton strands used for the portion next to the core. One inch of this yarn will stretch to over 2½ in. before breaking, and the fine rubber core will similarly stretch about seven times the test length before breaking. Table I gives a range of ten tests of this yarn made on the single-thread yarn-testing machine with a test length of 12 in.

These figures indicate that a 12-in. length will extend

TABLE I

Breaking Load in Ounces	Extension in Inches
9.8	15.6
9.2	15.1
11.0	17.9
9.2	16.6
12.3	16.4
12.2	16.3
11.9	15.1
12.3	16.1
12.0	16.5
11.8	15.9
Average 11.17 oz.	16.15 in.

TABLE II

Breaking Load in Ounces	Extension in Inches
29	18
25	18.5
22	17.4
27	18.1
22	17.4
30	18.9
29	19.6
21	17.4
30	18.4
25	18.0
Average 26 oz.	18.17 in.

on an average to 12 + 16.15, or 28.15 in., before breaking. This is equivalent to an elongation of 134.6%.

Introduction of the circular rubber core has made such threads conform more closely to the normal form of yarns, so that much greater freedom can be allowed to such threads in knitting. The square end section common to the thicker varieties introduces certain peculiarities in knitting. The threads do not always land squarely on the needles; and in order to accommodate themselves, there is a tendency for the threads to turn slightly in the stitch, which tends to interfere with the regularity of the fabric. Also the thicker rubber yarns could not easily be employed except for laying in between the divisions or sheddings of loops as already described. With the attainment of the finer counts all this is altered, and the yarns can be knitted quite well on the needles of the machine in the ordinary manner. Certain precautions, however, have to be taken; and one of the most important has relation to the easy manner in which the threads temporarily stretch when the slightest drag occurs. The ordinary pull normal to a thread, for example, in coming off a bobbin will stretch the rubber yarn so that irregular knitting results.

This uneven delivery of the thread to the needles is one of the main difficulties in the way of securing good results. It is recommended to use a simple feed arrangement which will deliver the right length of yarn to the needles, but the ordinary types of feed arrangements will not suffice. Feeder wheels, for example, will stretch the thread along its entire length. One way is to have two plain rollers for this purpose; and the fewer guides used, the better will the results be.

When such yarns are knitted by themselves in a fabric, they give quite even results; but in wear it is found that the fabric stretches too much in length. Stretch in the width is desirable, but in the length it is a disadvantage. For this reason it is found that the best results are achieved when the rubber thread is employed alongside another thread in the same stitch, or as plating. This gives the extra stretch or grip in width, while the second yarn restricts the yield of the fabric in length.

To further illustrate the properties of the rubber-core knitting yarn, table II shows a series of rupture and elongation tests on a brown core-yarn having a cross-section amounting to 40s count. This number is obtained by measuring the square end of the naked rubber, or by laying a number of the rubber threads side by side to ascertain how many will occupy one inch. The test length is 12 in. as before.

The elongation shown is equivalent to a percentage of 151.5% on the 12-in. length. This figure is interesting in comparison with the stretch shown by the rubber core, this being as much as 600% on the normal, which gives an idea of the enormous reserve of stretch present in the inner core of such yarns even when the threads with which they are covered are broken. The resistance of the covering yarns to further stretching of the core is important in exerting substantial pressure on the yarn in order that it may return to its ordinary position.

A large rubber concern which has been experimenting with these yarns for some time has issued the following details to firms who are now using them for all purposes of knitting. They are adopting a method to overcome the confusion arising from the method of counting, which was based on the size of the end section of the square variety. The round rubber yarns are supplied with a double number—for example, 32/36s, which means that the diameter of the yarn is $\frac{1}{36}$ in. but that the strand contains a volume of rubber which is equivalent to a 1/36-in. square strand. The round threads can be produced in any length required. In storing, a slightly moist air gives the best results. The general temperature should not be higher than 60° F. and can be as low as 40° F. Great care is essential in keeping the rubber yarn free from oil, and lubricating of such yarns in covering is harmful to the rubber core.

Testing Fastness of Dyeings on Spun Silk

By George W. Searell

IT IS often necessary to test dyeings on spun-silk hosiery yarn for fastness to peroxide bleaching and fastness to boil-off. The following tests which were devised by the author have given satisfactory results, and it is believed that they may well be adapted as standard methods by dyers and consumers of this type of yarn.

To determine the fastness to peroxide bleaching use the following procedure: Select an evenly dyed stocking of a known matched shade; cut it exactly in half; reserve the foot portion for later comparison; and use the welt portion for the bleach test.

Prepare a bath as follows: Into 900 c.c. of soft water put 10 c.c. of hydrogen peroxide (100 vol.), stirring well. Add 1½ c.c. of silicate of soda, and test bath for alkalinity with litmus paper. The bath should be distinctly alkaline. Bring the bath to 190° F.; enter goods; remove heat; and allow goods to stand immersed for 1 hr. Remove sample, rinse in two cold waters, and dry. When dry, compare with foot portion for alteration in color.

The above test corresponds to a full peroxide bleach. If a half bleach is desired, use same total volume of liquor (900 c.c.), but only one-half the amount (5 c.c.) of peroxide and silicate (¾ c.c.), and immerse the sample for ½ hr. instead of 1 hr.

The procedure for testing the fastness of colors to boil-off is as follows: Take a 6-in. length of the dyed yarn, divide it into three parts, and add to each part an equal amount of silk in the gum. Then weave into a braid, tying the ends securely. The braid is immersed in a ½% soap solution (90% olive oil soap) for 2 hr. at a boil. The weight of soap solution should be 100 times the weight of braid, and a constant level should be maintained by replacing any water lost by evaporation. After the 2-hr. immersion, the braid is rinsed in tepid water and dried in the air. When the sample is dry, examine it for any change in color of the dyed silk or staining of the white. This is best accomplished by comparison with a piece of the original dyed yarn and a piece of previously degummed silk.

In case the hosiery is to contain a rayon and gum-silk mixture, the above test should be repeated, using a white piece of the rayon yarn braided with the gum silk and dyed silk.

New Wetting Agents

◆ *Recently new types of wetting agents for use in textile processing have been prepared from wood rosin. The accompanying article which discusses the manufacture, properties, and uses of these materials is abstracted from a paper by I. Gubelmann, H. J. Wieland, and C. O. Henke, of the Newport Division, E. I. duPont de Nemours & Co., presented before the division of dye chemistry at the 82nd meeting of the American Chemical Society and reported in the December, 1931, issue of Industrial & Engineering Chemistry.*

WETTING agents used in various textile-treating operations, such as dyeing, carbonizing, mercerizing, printing, and the like are usually employed in small concentrations in relatively large volumes of water. Concentrations of about 1% are often used, and even in such low concentration the effect of the wetting agent on the treating liquor is very marked. It is generally considered that the action of wetting agents is due to the lowering of the surface tension of the liquid. This lower surface tension permits the liquid to flow into the pores and interstices of the fibers and thus brings the treating liquor in contact with all parts of the textile material being treated. As a result, the finished product is obtained even and free of untreated spots.

Recently a new type of wetting agent has been brought out which is abietenesulfonic acid. Abietic acid, on thermal decomposition, splits off carbon dioxide, giving a hydrocarbon oil—abietene. Abietene may be readily sulfonated at low temperatures, using 100% sulfuric acid to give abietenesulfonic acid. The formula for this compound is not known, since it is derived from abietic acid, the formula of which is questionable. Instead of using pure abietic acid, which would be quite prohibitive commercially, it has been found that rosin can be used for the production of abietene. This gives an abundant and cheap source of raw material.

Properties

The abietene as it is produced from FF grade wood rosin is preferably sulfonated by being run slowly into twice its weight of 100% sulfuric acid at about 10° C. and stirring at this temperature for 20 hr. The sulfonation mass is then run into such an amount of water that the final concentration of sulfuric acid is of about 40% strength, whereby the sulfonic acid separates as a black, oily upper layer. After separating the sulfuric acid layer, the sulfonic acid layer is dissolved in water, neutralized with an alkali, and filtered. The filtrate is evaporated and the product pulverized.

The abietenesulfonic acid is a black paste, soluble in water in all proportions. Its alkali metal salts are solids and are readily powdered. They are stable compounds, are not hygroscopic, and may be kept indefinitely. The ammonium and pyridine salts may likewise be made, and are also found to be good wetting agents. The product is produced commercially in the form of its sodium salt and is a tannish-colored powder. It may be used in neutral, alkaline, or acid solutions. Concentrated solutions of acids or salts, however, salt it out.

The newer wetting agents have not displaced the older ones except to a limited extent, but have broadened their field of usefulness. Thus, while the soaps can be used in only neutral or slightly alkaline solutions, the abietenesulfonates and the alkylated naphthalenesulfonates can be used in acid, slightly alkaline, and neutral solutions.

Methods of Testing

Various methods have been used for testing wetting agents. A simple test is to determine the number of seconds required for a piece of No. 6 canvas 1 in. square to sink in a 1% solution of the wetting agent at 22 to 23° C. Another method is that described by Draves, in which a 5-gram skein of cotton yarn is used. Although these simple sinking tests give an index of the properties of a wetting agent, they are not conclusive and do not give a full picture of their value in treating baths. This is true since so-called wetting agents usually have other properties besides their wetting properties, and in some cases these other properties may be of much greater importance than their wetting properties. A conspicuous and common example of this is soap.

The actual value of a wetting agent does not depend solely upon the speed of wetting, but on the total of all its properties which may be useful in the operation in which it is to be used. This can only be determined by practical and systematic trials in the operation in which it is used. Thus the simple sinking tests showed that the sodium isopropyl naphthalenesulfonate has a greater speed of wetting than the sodium abietenesulfonate. However, when 10% dyeings of Anthrene Violet BN 25% paste were made on skeins of cotton yarn wet in the same way with the two materials, the one wet with the sodium abietenesulfonate gave the stronger and more level dyeings. Likewise, on adding the agent directly to the dyebath and then dyeing untreated cotton yarn, the dyebath containing the sodium abietenesulfonate gave stronger and more level dyeings than the one containing the sodium isopropyl naphthalenesulfonates. This is probably because of the excellent penetrating and dispersing properties of the sodium abietenesulfonate. These are not measured in a simple sinking test, but show up in the practical results secured when it is used.

If 50 parts of sodium abietenesulfonate, 15 parts of water, and 35 parts of terpineol are thoroughly mixed together and warmed, a clear homogeneous solution is secured. This mixture is a liquid above about 30 to 35° C. and is easily handled at this temperature, but is somewhat viscous at lower temperatures. This mixture has much better wetting properties, as measured by sinking tests, than the sodium abietenesulfonate itself. In actual dyeing tests it gave stronger and more level dyeings than any of the other wetting agents.

Silk Falls Below $2 Level

as Japan Drops Gold Standard

Japanese steamer unloading silk in New York

JAPAN'S decision on Dec. 13 to drop the gold standard gave what importers hope will prove to be the final downward prod to raw silk prices in the New York market and helped to precipitate what is perhaps the most disorganized condition the primary division of the silk industry has known. The condition is not necessarily alarming as importers generally look for a gradual trend toward stability after the holidays, but it means some weeks of hesitant trading. To a degree the gold abandonment was anticipated. Hosiery manufacturers had been warned by the National Association of Hosiery & Underwear Manufacturers that Japan was leaning in this direction and were strongly urged not to cover beyond mid-January. The change of Japan's government and the resulting gold embargo came sooner than even these well founded predictions intimated, however, and some firms had already covered ahead.

The present picture is one of uncertainty with a trend to speculation. On Monday of the current week, for the first time in the history of the Raw Silk Exchange, prices through the entire futures market were below the $2.00 level. Japan reacted joyfully to the gold decision although yen exchange suffered the natural adverse reaction and on Wednesday closed at 43c. against par of 49.8c. Cocooners and filatures in Yokohama believe the embargo will make for a tightening of silk prices on a yen basis. It is assumed that the new optimism in Japan will find expression in an inflationist program for silk, but little activity in that direction need be looked for prior to the new year. The most probable prospect is that the two final weeks of 1931 will find silk fluctuating somewhat but not rising materially above current prices; a slow advance beginning in mid-January is regarded as well within possibility.

Present silk levels, of course, are unnatural and it would be dangerous to rely on them. They constitute a bargain proposition for the American manufacturer and doubtless if the break had come at any but the quietest period of the year, the market would see considerable buying, despite the uncertain outlook. But no manufacturer—weaver, knitter and least of all the precariously-placed throwster—wants to add anything to his 1931 inventory that he can possibly avoid.

The result has been that although Japan's silk prices have advanced, the levels in New York, influenced by the fluctuating exchange rate, are low and weak, with scant early prospect of recovery. American manufacturers, in the terms of one New York importer, seem "frightened to death." This caution on the part of the silk-consuming industries is natural enough, and it is considered sound business to go slow on future commitments for the next ten days.

The vital thing to keep in mind, however, is that silk selling below $2.00 offers opportunities which cannot be disregarded; close watch on trends is essential. It is conceivable the trend might turn upward even before mid-January, as stocks of raw silk in American mills are low and the turn of the year should bring at least a fair amount of buying, for spring manufacture.

Meanwhile, the New York and Yokohama markets are awaiting stability in exchange and importers are confident that such will bring higher raw silk levels. The approach of Christmas necessarily holds back any tendency the market might have to adjusting itself to the new conditions in Japan.

Optimism in Japan

The new Japanese government is committed to a policy of strengthening industry and much optimism prevails throughout the textile industries there as regards outlook for the coming year. Favorable reaction to the gold embargo is looked for not only in the raw silk industry, which is Japan's main consideration, but in her cotton goods export trade as well. Advices received by the Department of Commerce, Washington, from Tokio are to the effect that the outlook in the Japanese raw silk industry is decidedly more favorable, thanks to the new policy, as obviously more profit will be made on stocks remaining from the 1931 reeling, if dollar prices remain unchanged.

The downward trend in silk is being watched very closely by the rayon industry for its possible effect on that market if silk levels do not recover shortly. At present, silk is down to competitive range with a limited number of the popular-price deniers and possibly some qualities which sell to the broadsilk mills making quality all-rayon satins. Rayon has enjoyed such a banner volume this year, however, that the market is ending the year in a sound position; the only problem suggesting itself to the rayon industry in relation to silk competition is that rayon prices afford a precariously low profit and any effort to meet the competitive position caused by further silk decline would virtually eliminate that margin.

Bigelow-Sanford To Greet 1932 With Record Rug Advertising Drive

IN THE belief that the latter part of 1932 will bring slow but steady upcurve in consumer expenditures for carpets and that intelligent advertising effort should precede rather than parallel such a trend, the Bigelow-Sanford Carpet Co. in February will begin the most extensive carpet promotional campaign ever undertaken by the company. The advertising will appear in consumer and trade publications, chiefly the former; in the consumer magazines the appeal will be directed exclusively at women as the company estimates that 98% of carpet sales are made to women. The consumer copy will reach 14,500,000 women readers of six leading magazines.

The plans also include the preparation for retailers of unusual envelope enclosures that show the proper floor coverings and harmonious color schemes for all established periods. Due to the pictorial treatment, these folders permit the reader mentally to furnish her own rooms with her own furnishings using a color scheme inspired by a floor covering of her choice.

The scope and aims of the drive were made public last week by J. H. Winter, in charge of advertising for the company. The project includes numerous original ideas of particular interest to carpet manufacturers and the textile industry generally. The company has adopted a new trade name, "The Bigelow Weavers," which is printed on a tag and will be attached to all rugs offered by the firm from now on. The term, "The Bigelow Weavers" is used solely for promotional purposes and implies no change in the company's corporate identity. The phrase "lively wool" as characterizing the particular quality of yarn going into Bigelow products, will be emphasized in all promotional material. Supplementing the advertisements, the company will supply stores with cuts, mats of copy suitable for retail uses and other display material. The company's staff of 40 to 50 salesmen and 150 wholesale distributor salesmen, has been given intensive training in the drive and will function as a unit part of the campaign. They will tell the dealer that he is making two purchases: advertising and merchandise. They will give the dealer the most minute information on details of the campaign so that retail sales effort can parallel the company's drive.

In addition to the mass media used to reach the consumer, Bigelow has contracted for space in 12 leading trade publications. No sectional magazines will be used because company officials expect to reach their readers in the trade press of national circulation. In the trade media are included hotel and theater magazines which are read by customers of the contract department.

The trade media, Mr. Winter explained, were selected as a result of the answers to 1,000 letters mailed to the trade asking them to list the trade magazines they actually read.

Drive Based on Survey and Extensive Tests

The drive is based on the results of a survey that the company conducted in 21 cities throughout the country, in which 2,130 housewives were interviewed. One point disclosed in this study was that the large majority of carpet purchasers bought merchandise without knowing names of brands or of manufacturers; to eliminate this condition, the advertising will place unusual emphasis on name and quality. The label was designed after a test of many types of identification, in which a pile of rugs identified in various ways was turned more than 2,000 times. Price will be subordinated, as the company believes that merchants today already put too much stress on price appeal.

The plan does not involve any change in production policies. Since the start of the depression, the company has operated with a minimum inventory. The present production schedule, while low, is elastic enough to permit of quick acceleration, depending upon the consumer reaction to certain of the new lines to be offered during the campaign.

A statement of the carpet company describing the plan, concludes with this significant comment:

"In this campaign Bigelow executives believe they have found the key to business expansion and profits."

Tag designed by Bigelow-Sanford Carpet Co. to be attached to all carpets sold

Make Detector Wires on Doublers *Real Guardians Against Singles*

By L. L. Kingsford

◆ *It is a well-known fact that the primary function of detector wires on doubling machines is to guard against the winding of singles onto the cheeses, but lack of proper attention to these parts in many cases makes them of no use for this purpose. In the accompanying article the author explains the working principles of two common types of detector-wire mechanisms and points out where accumulations of lint, dirt, and other clogging materials may render them inactive.*

THE importance of detector wires in doubling-winding is obvious. Controlling, as they do, the stop-motion apparatus, it is quite evident that in, say, three-end doubling should one end break and its detector wire fail to function, the other two ends would continue to run on, making a length of two-end work. Since this single, as it is technically known, must all be drawn off before the cheese can be started again, not only is unnecessary waste made, but there is also a loss of production while the single is being pulled off.

Instantaneous action must be expected of detector wires if they are to work at their maximum efficiency. During the normal course of operation, however, the lint which is continuously dropping from the moving ends of yarn, together with the combination of cotton dust, humidity, and oil, tends to bring about a sluggishness or even inactivity of the detector wires which will result in singles.

In the type of detector wire depicted in Fig. 1, the wire holder *H* is shaped like a hollow box and sometimes fills with dry lint. The normal operation of this type of wire and holder will be described first, and then it will be shown how the lint interferes with the wires.

The end of yarn *E* is threaded through the wire as shown in the sketch, and during the running of the machine it is kept taut and holds up the drop, or detector, wire *DW*, thus preventing it from falling into the path of the revolving kicker or knockoff *K*, which has four striking edges. One of these will strike any descending drop wire with a blow of sufficient force to cause the catch that keeps the holder *H* in place to trip and spring up, thereupon bringing the stop motion into action and stopping the cheese.

If the holder *H* is free of ooze or dirt, it will look like the sketch in Fig. 1, where it is shown both with and without the covering plate *CP*, which is held in place by the thumbscrew *TH-S*. With the holder in this condition, the wires have every opportunity for acting freely, the shoulders *SH* at the top and bottom of the holder preventing the wires escaping from the holder. There is, therefore, plenty of room for the wires to move and to respond instantly to the action of gravity when an end breaks, as may be inferred from the position of the middle wire in *B*, Fig. 1.

Now then, if the ooze or lint has worked its way into the interior of the holder, it will get under the loop *L* of the detector wires, form a cushion, and thus prevent the wire or wires from making a complete descent, with the result that the stop motion is rendered inactive. Consequently the tube or cheese continues winding only two ends until one of the two breaks or runs out. The hindrance to the action of the wire as just described is also sometimes occasioned by the openings in the lower part of the holder becoming loaded with lint.

The clogging of the holder is not accomplished all at once, but is a gradual process; accordingly, when there is a slight hesitancy of the stop motion, causing a yard or so of single to be made, the cover should be immediately removed and the inside of th holder examined for clogging material.

In another form of detector wire, *DW*, Fig. 2, which is in extensive use, retardation of the action of the wire is sometimes occasioned by the pin *P*, on which the wire holders *WH* are placed, becoming loaded with a combination of lint, dirt, oil, and so on.

Normally, the instant the end *E* breaks or runs out, the wire should begin descending, forming an arc fulcrumed at the pin *P*, and bringing the lug *LG* into the path of the revolving kicker *K*, thereby causing the stop motion to act and stop the cheese.

But when the pin becomes caked with a coating of stiff dirt, it retards the downward movement of the de-

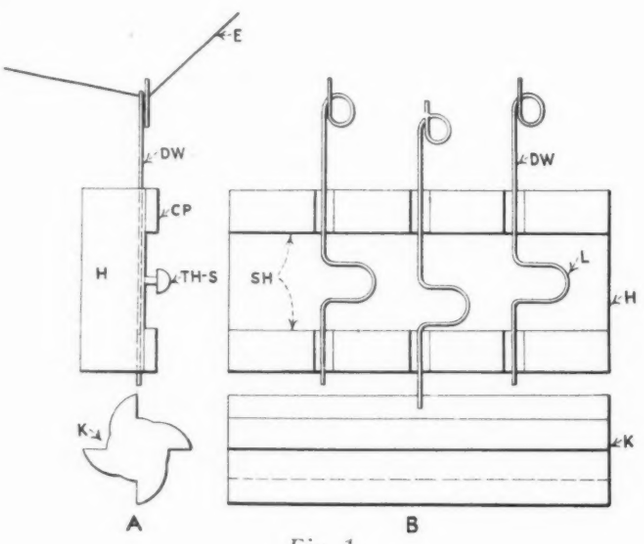


Fig. 1

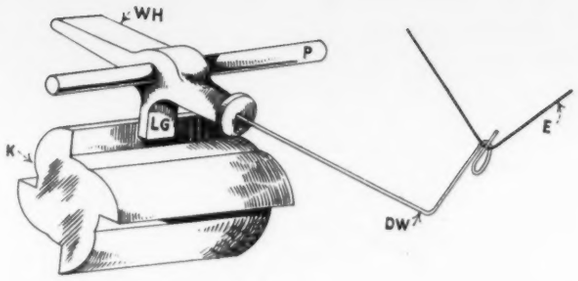


Fig. 2

tector wire, the interference being slight at first (almost imperceptible), gradually growing more conspicuous as the dirt increases, until a time comes when the wire moves so slowly that a considerable length of single runs onto the tube before the wire drops far enough to cause the lug to engage with the kicker.

In both the foregoing types of detector wires, there is a posibility of one of the kickers occasionally becoming loose on the kicker shaft and impairing its usefulness; sometimes it will slip along the shaft so that it is entirely out of the field of contact with one or even all of its detector wires. Naturally, singles are bound to occur until the kicker is brought back to its proper place and securely fastened to the shaft again.

Sometimes the kickers of the system depicted in Fig. 1 will become grooved at the places with which the dropping detector wires come into contact, becoming so deeply channeled in time that there is not sufficient—if any—contact between the wire and kicker to set the stop motion in operation. In cases of this kind, the kicker must be moved slightly along on the shaft so that a fresh part is presented to the wires and then fastened to the shaft again.

When there is a radical change of counts from the average usually run, going, say, to the very fine size, there may be some trouble with the wires in Fig. 1. This trouble takes the form of stop motions stopping the cheeses even though no ends break or run out. The reason is that the wire is too heavy, and the slightest fluttering or sagging of an end will cause its detector wire to dip and, naturally, set the stop motion in action. The remedy for this trouble, when the tension cannot be adjusted to meet the condition satisfactorily, is to replace the detector wires with lighter ones.

Conversely, when going from a fine to a very coarse thread, heavier detector wires are required; for although theoretically all falling bodies, irrespective of weight, are supposed to drop the same distance in the same time, yet retardants of various kinds (friction, air, etc.) make the heavier wire imperative for best results on coarse yarns.

There have also been cases in which, through some oversight, the new drop wires were just a shade too long at the lower end—below the loop *L* in Fig. 1—so that only a very slight downward movement would suffice for the wires to contact with the kicker and stop the cheeses, a circumstance resulting in unnecessary stoppages from time to time. It is therefore advisable when purchasing new wires to check them with a standard wire kept for that purpose and to try out a few wires immediately.

It is important in the type of detector in Fig. 2 that the holder and wire be properly balanced, so that when an end breaks the guide end of the wire will immediately start downward. A light wire, put in by mistake when renewals are being made, will give continual trouble by not dropping fast enough to prevent some single being made. On the other hand, a wire too heavy for correct balancing of the holder will give trouble by continual dropping, even though the ends neither break nor run out.

Detector wires, whether of the types mentioned in this article or of some other kind, all have a tendency to cut or channel in time. If allowed to run long enough after the channeling once begins, there will come a time when the cuts or grooves become so deep that they will trap any uneven place in the yarn and thus cause an unnecessary breakage. Obviously, for the reason already cited and the fact that badly worn wires might also cause chafing of the yarn, it is advisable to have the cuts smoothed out with emery cloth, and finishing off by burnishing with a fine crocus cloth.

The responsibility for the proper care of the detector wires should rest on the section-hand or person in charge of the winding section, even though he may not do the actual work on them. A periodical inspection should be in vogue, and all renewals should be recorded in a book for future reference. The operatives who attend the winding machines must be trained to report immediately any detector wires that are not functioning properly, whether these wires are already causing singles or are just beginning to show symptoms of giving trouble; for every faultily working detector wire is a potential source of singles.

Saco-Lowell Concentrates in Enlarged Plant

CONSOLIDATION of the manufacturing operations now carried on in Newton Upper Falls, Mass., at Biddeford and Saco, Me., has been voted by the directors of the Saco-Lowell Shops, Boston, Mass.

Floor space approximately equal to that at Newton, with the exception of the foundry, has been acquired through the taking over of several buildings which were formerly part of the York Mfg. Co. plant, the buildings being adjacent to the present plant of Saco-Lowell at Biddeford and separated only by a channel of the Saco River which can be bridged.

As the foundry at Biddeford will be enlarged to take care of the increased demands, the move represents no cut in productive capacity. In fact, the company believes that the closing down of the smaller plant, with the resultant concentration of equipment and personnel in one location, will increase the efficiency and economy of operation and strengthen its ability to serve.

The consolidation has been planned in such a manner that there will be no interference with current business. It is expected that the move will be completed by April, 1932.

The plant of the Saco-Lowell Shops at Newton Upper Falls originated in the shop which Otis Pettee started in 1824. The Otis Pettee Co. was formed in 1853, became the Pettee Machine Works in 1882, and merged with the Saco Water Power Machine Shop, to form the Saco-Pettee Machine Works, in 1897. The Saco-Lowell Shops was formed by merger with the Lowell Machine Shop in 1912.

Steps Necessary Toward Composite Raw-Silk Classification

By Warren P. Seem
Julius Kayser & Co.

◆ *In an article in our issue of Nov. 14, Mr. Seem offered a comparative analysis of American and Japanese composite classifications. In this second article, which concludes his discussion, he proposes that the grade differential be based on evenness. The time now required to make and weigh 250 nine-meter skeins, he declares, will be practically eliminated by "a machine now almost perfected which will automatically wind, weigh, and score the results."*

TO MEET fully the conditions named in the analysis which appeared in the Nov. 14 issue of TEXTILE WORLD, pages 36 to 39, the writer proposes that the composite classification be based on the principle of uniformity. This principle is defined practically to mean that in the use of the best or worst silk within the range of one grade, no appreciable difference is found in the quality or cost of the product. It will reward the reeler who gives service, careful supervision, and proper inspection and who produces quality; it will penalize others who deliver the "run of the filature." Such a grading should satisfy the buyer, and all he needs to do is to find the grade that suits him best at a price he is willing to pay.

Five Major Qualities

Raw silk has five major qualities; viz., nature, size deviation, evenness, cleanness, and neatness, any one of which cannot at all times be constant within that grade but must not vary enough within a grade to violate the specification given for uniformity or show an appreciable difference in the quality or cost of fabric production.

We must fix firmly in our minds the fact that a raw-silk thread is made up of five different major qualities, and one number can never represent a grade. That would only be possible if raw silk had but one characteristic; besides, a differential of less than 2% is impractical, as silk varies too much and results cannot always be duplicated at different laboratories within that range. The sampling, too, is limited for obvious reasons.

There is a general desire to trade on a low price differential. The price differential fluctuates with the market price and is subject in Japan to article No. 75 of the Yokohama Exchange. The grade differential, I presume, is to remain constant, or at least subject only to rare changes found absolutely necessary to bring it in conformity with new conditions that may arise. I propose that the grade differential be based on evenness, because it is the basic quality and can be determined by a methematical rule, and that the percentage scale be maintained as an international foot rule for grades.

Table II on page 32 of the Oct. 24, 1931, TEXTILE WORLD, gives the relation between single and multiple threads. It shows a differential on two-thread from 3.7 to 4.7% within a grade and from 1.8 to 3.4% on ten-thread. In practical mill operation and inspection of fabric and hosiery, a range of 5% in evenness is distinguishable on sheer products if carefully inspected. If a differential of 5% on evenness is used on upper grades, there are lots where the difference between the best and worst within a grade will not give uniform results. Therefore, to avoid irregular grading and make a low price differential practical, a differential of 2% on the upper, 3 and 4% on the medium, and 5% on the lower grades is deemed essential to a grading within the scope of practical application and duplication of testing results in different laboratories.

Repeated inter-studies on the seriplane indicate that the human equation enters into the test to such an extent that it will never meet the requirements of an international test for evenness even if the scorings are corrected by the deviation in size. This is unfortunate since the method has met public demand to visualize test results.

To meet the requirements of an international measurement for evenness, preserve the benefits of visualizing the results, and study the optical illusions at times prevalent in matching standard panels on the seriplane, a method was built in the Julius Kayser Laboratory which consists of measuring evenness by the weight of nine-meter sizing skeins, winding on the seriplane, and then cutting off and weighing on a torsion balance. The evenness is computed by squaring the deviation and calculating it by a mathematical rule. (See the May 2 and 9, 1931, and the Oct. 24, 1931, issues of TEXTILE WORLD for details of test.)

TABLE VI. COMPOSITE ESTIMATE

Quality	Measurement			
Evenness Unit	Evenness	80	.....	..
	Size Deviation	95	95 × 80	76
Nature	Coefficient of Strength and Cohesion Nature Test	100	100 × 80	80
Cleanness	Major and minor	90	90 × 80	72
Neatness	Panel Estimate	95	95 × 80	76
Total			$\frac{304 \times 100}{400}$	= 76

TABLE VII. COMPOSITE SCALE OF GRADES

Grade	Sp. AAA	AAA	AA	A	B	C	D	E	F	G	Under
Percentage	84	82	80	77	74	70	65	60	55	50	50
Approximate Market Grading	Pre.	Gr. XX	Spec.		Grand XX		Cr. XX Sp.		Cr. XX		X

To those interested in following these studies by actual tests, we desire to say that we appreciate that the time required to make and weigh the 250 nine-meter skeins is an important item and that we expect to eliminate this costly factor with a machine now almost perfected which will automatically wind, weigh, and score the results.

Composite Classification

To meet the requirements of an international classification as embodied in this study, we present the following specifications:

First, five qualities to be measured and evaluated; viz., evenness, size deviation, cleanness, neatness, and nature.

Second, evenness to be based on nine-meter sizings, and index number or percentage calculated by a mathematical rule, the evenness unit to consist of the product of the evenness and size-deviation percentages.

Third, cleanness to be counted on the seriplane.

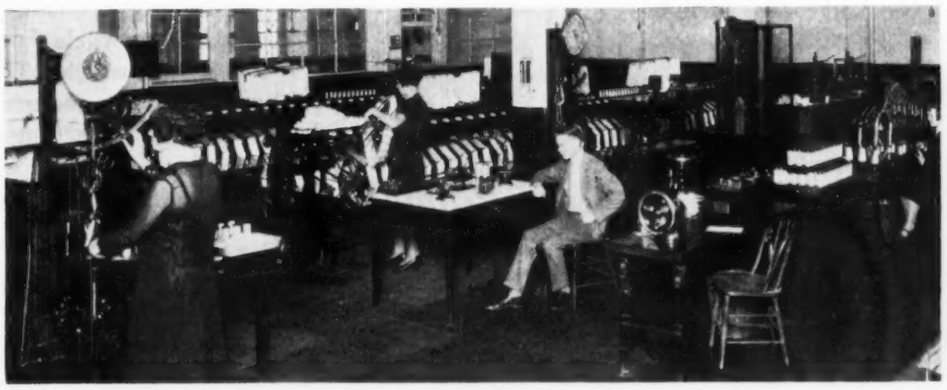
Fourth, neatness to be matched by standard patterns.

Fifth, nature to be measured by the inclined-plane serigraph or estimated from the coefficients of the strength, elongation, and cohesion tests.

Sixth, the composite grading to be based on uniformity consisting of four units of 100% each.

Seventh, evenness to be taken as the basic quality to keep the other qualities in equilibrium or in their proper relation to the weight of importance in the real quality of raw silk.

The problem of estimating a composite value on raw silk consists of evaluating four different characteristics that are inherent in the silk, giving each quality a relative index number or percentage, and then bringing them together as one number, of which a group constitutes a grade.



Laboratory of Julius Kayser & Co., Brooklyn, N. Y.

We shall proceed to clarify the plan by employing the method used by accountants to predicate labor material and overhead upon a specified product to determine its mercantile value. A commercially perfect raw silk we shall assume as worth relatively 400%, consisting of 4 quality units of 100% each. We shall take as an example a silk showing the following quality percentages: evenness, 80%; cleanness, 90%; nature, 100%; size deviation, 95%; and neatness, 95%.

To keep the cleanness, neatness, and nature in their proper relation to the basic quality, evenness, we shall apply a mathematical rule and multiply each quality percentage by the evenness percentage. We shall proceed on the principle that, as the defects increase in any one quality, the value of the silk is lowered.

In our example, evenness is 80% or 20% low; size deviation is 95% or 5% low; and the penalty is found by multiplying the evenness 80% by the size deviation 95%, which equals 76%, and then deducting 76% from 100%, or 24%. Following this procedure, we have the following composite evaluation of all the qualities:

Evenness, 80%; size deviation, 95%.

Evenness unit,	95% × 80% = 76%.	Penalty,	100 — 76 = 24%.
Cleanness,	90% × 80% = 72%.	Penalty,	100 — 72 = 28%.
Neatness,	95% × 80% = 76%.	Penalty,	100 — 76 = 24%.
Nature,	100% × 80% = 80%.	Penalty,	100 — 80 = 20%.
		Total penalty,	96%.

If a perfect silk is worth 400%, a silk with defects lowering its quality 96% is worth 400% —96% or 304%.

The relative value is found thus:

$$\frac{304 \times 100}{400} = 76\%, \text{ or the composite value.}$$

Table VI is a simplified estimate of the composite value.

Table VII is a composite scale of grades tentatively proposed for a classification based on the nine-meter test for evenness and the uniformity principle for the composite evaluation.

Japanese Contribution

In conclusion, the writer desires to acknowledge that in his researches he has been greatly aided by technical information developed in Japan. He finds that country's technicians well informed on the qualities of raw silk, and it is to be regretted that their classification committee did not, in their building of a composite grading, give due weight to the facts developed by the technicians.

The continued use of methods and tests that do not indicate evenness uniformity, and the basing of composite classification on a rule that is subject to many different interpretations, will tend to militate against the interest of the Japanese silk industry if not corrected. There are two reasons for this. First, it lowers the standard of quality and makes it easier for other countries, starting to produce silk, to meet the quality standards of the Japanese government. Second, the American manufacturer needs the highest quality of raw silk for mass production, maintenance of high wages, and efficient operation. Centuries of experience in sericulture and reeling with trained technicians place the Japanese in a position to profit by such experience and produce quality raw silk that is difficult to duplicate and is eagerly sought by the American manufacturer.

Short of the Ideal

The American consumer is anticipating that, beginning with July, 1932, when all silk is to be classified at the conditioning house of the Japanese Government, the present irregularities in quality will cease. We are presenting our researches to show that the Japanese composite grading and the tentative method adopted by the committee of the Silk Association of America in June, 1931, fall short of the ideal; and we hope that our findings will be of some assistance in eventually developing a more satisfactory set of standards.

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

◆

Watching Workers for Promotion

Editor, Overseers' Round-Table:

IN ANSWER to Pete's query I believe, in full justice to all concerned, that the general characteristics of all employees should be studied by the super or overseer. This does not suggest that they be closely watched, or even that any lengthy record be kept concerning them which in turn creates a lot of unnecessary work that one does not usually find time to do.

With labor turn-over playing such an important part in factory management as it does today, one is forced to the conclusion that a large part of this labor turn-over is due to employees moving with the object of improving their position.

I think it pays every overseer to give particular attention to all new help, for from them he will no doubt obtain worthwhile kinks from their work and make-up. With the older employees they should also be studied, but less rigorously for initiative, diligence, loyalty and the hundred and one things that show up in the individual who is above the average.

Getting to the main point of the discussion, the only man who can intelligently and efficiently promote help to better positions is the man who knows his help, at least in a general way. This knowledge he should have obtained first-hand before the position became vacant.

The super or overseer who has such a knowledge of all employees will always be in a position to fill any vacancy when it occurs and give the post to the most suitable individual. He will never fit round pegs in square holes. He will satisfy all reasonable employees, even those who may be a little disappointed in his choice. Last but not least, he will have gone a long way towards preventing a high labor turnover among his most valuable help, who can see by his actions towards others that their work is being appreciated.

"INTERESTED."

Editor, Overseers' Round-Table:

THE SELECTION and training of understudies, even for the lesser posts, has always been a sore point in the mill. Suspicion always seems to creep in from every angle. Whoever has to train an understudy is always afraid that he is giving tuition to some one who may wrest his position from him, and thus will frequently select a man who can just "carry on" in his absence, but who is lacking in education or executive ability, so that there is no possibility of him getting the post permanently. The understudy is also usually suspicious that he is not getting a square deal. The management is often doubtful if the understudy is being given all the knowledge and facts that the trainer possesses and, as they naturally want the best, that causes them considerable anxiety.

This can be overcome if each man is definitely shown that he is to train an understudy in order that he himself can advance to a higher position. This should be done not by word of mouth only, but it should be so evident throughout the mill, that none can doubt it. Assured of that, he will be

Relations Between Overseer

"WELL," said Superintendent Chase as he settled down, "has anyone a problem today?"

"I should say so," Bill growled.

"Ah! I take it that friend Bill has something on his mind," Chase smiled. "Sound off, Bill."

"These shoes of mine," said Bill, dramatically holding up one foot, "are just about wore out from running back and forth to the office. Just take today as an example. I was in the middle of figuring out something in the department when some bird in the office—I won't mention any names of course—calls up and says he wants to see me in the office at once about something. Naturally, I don't know what's up, so I chuck whatever I was doing and tramp up to the office. Well, come to find out the bird said he couldn't figure out Joe Whosit's time card and wanted me to explain. I got a little sore about being called away from the department for such a small thing, but I didn't say anything. A little while later comes another call that I'm wanted in the office at once, so once more I drop everything and tramp up there, only to find that one of the office gang couldn't understand my writing on a report and wanted me to translate. I didn't say anything this time either, but I thought a lot. And so it goes all day long; up to the office and back again."

"Now," Bill continued, "My idea is that this sort of thing has got to stop. I don't criticize anyone in particular; it's just a habit the office force gets into of sittin' and sittin'. The more we overseers stay in our departments, the better it is. Boss, how about getting a rule put through that if anyone in the office wants to see an overseer the place to see him is in the mill?"

"Before Mr. Chase answers your question, Bill, I'd like to say a few words," Pete spoke up. "I think that there are times when an office force gets high and mighty and asks the overseers to come up for most anything, but I also think there are times when the overseers get high and mighty and cause

and Office Force

a lot of needless work for the office force. There are two sides to the question. Suppose an office worker is going over some figures and needs a bit of explanation from the overseer. If there are telephones between departments it helps, but lots of things can't be settled by phone. Now this office worker will be stopped from going on with his work if he doesn't get this point settled, so he asks to see the overseer right away. Probably if the office worker went into the plant it would mean lugging a lot of records along. Now, I think that the office force should be warned to be reasonable and should go out into the mill to see the overseer when practical, but I certainly wouldn't have any such rule as Bill wants. Make the whole thing flexible and have it understood that each particular case should be settled in a way that will cause the least trouble to all concerned. Get away from this idea of one side trying to order the other about and have some cooperation."

◆

Do *you* think that office workers are too inclined to order the overseer to come to the office, and do you think there should be a rule against it?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

anxious to get his understudy thoroughly efficient, so that he can advance himself.

Too often a man is just an ordinary machinist all his life. He feels that his efforts to give 100% service have never been recognized and his rank is no higher than the man who is careless and indifferent. Possibly he remarks that there can be only one superintendent in a mill and only a limited number of overseers, and he does not feel encouraged to fight on. ALFRED C. LAYZELL.

Editor, Overseers' Round-Table:

THOSE OF us who have started at the bottom and worked our way up in the mill, appreciate an opportunity of being promoted by the people we are working for. The ambitious and efficient employee is going to the top. Why make it necessary for him to hunt another plant for promotion?

I now have in mind an employee who, 30 years ago was running a picker and attending a night school to learn the rudiments of arithmetic. Today he is superintendent of a large plant and he is making a success of it in every sense of the word.

I find that promoting worthy men creates a much better feeling among the employees. They realize that loyalty and efficiency will be rewarded. JAMES L. TURNER,
Dominion Fabrics, Ltd.

Payment by Piece-Rate

Editor, Overseers' Round-Table:

PIECEWORK as a means of insuring maximum production, I believe, is the best method. It is true that the operator may tend to run slip-shod over his quality, but this would occur only in a factory without adequate supervision. We do everything here by piecework and I feel that our workers are drawing far better wages than in a plant where time work is in practice. In addition, for the size of our plant, I think we are getting as near 100% labor efficiency as possible.

It is not necessary to drive the help, and they will not rush through a lot of poor merchandise because they know that our quality standards will not permit it. We use a fineing system for poor workmanship and find that it is several times as effective as any number of callings. If you want to put a check on a man, touch him in the pocketbook, he will be sure to remember it longer. I grant that it may not be the business of the company how much the individual earns, but in these times of avariciousness there will be little trouble on the score that the worker will not want to make as much as is possible. RAY E. BALLARD,
Ballard Silk Co.

Editor, Overseers' Round-Table:

I FEEL that the piecework basis of pay is really the best system, both for employee and employer, provided the machines are kept in a first class working condition.

Is it right to pay all operators the same day rate when some can product quite a lot more than others? It will kill the incentive of the better ones to do their best when they receive only as much as the less productive operators. On a piecework basis the better ones not only produce more, and get more in the pay envelope, but there is also the advantage that the others are spurred on to better production and, in addition, the employer knows exactly what each operation is costing. G.W.S.

◆

Summary of Discussion on Mill Fences

The vote was practically unanimous that mills should be guarded by fences or other means to prevent outsiders getting into the plant without proper authorization. It was stated that, instead of regarding such comparative isolation in the light of prison walls, the operatives actually welcomed the protection and were glad to be free from children, casual strangers, and salesmen trying to sell them something. The benefits to the mill of concentration on work were also stressed. A note of warning, however, was contained in many letters which pointed out that anyone with a real reason to enter the mill or office should be guided quickly and courteously.

Knitted Athletic Shirts Offer New Market for Silk Spinners

THE dearth of demand from established markets has spurred spun silk mills to seek new outlets and one notable development in that direction during recent weeks has been the increased use of spun yarn by knit underwear mills. The volume of business received by spinners from the underwear manufacturers has been light so far, but yarn houses regard this outlet as very promising. Spun yarn is being used by underwear mills mainly for the manufacture of knitted athletic shirts which retail about $1.00, and according to spinners this garment competes with both the better quality cotton shirts and rayon garments.

Hitherto underwear firms have fought shy of spun silk due to the high prices, but the current low levels have induced them to venture into this new field. It is a bit early to estimate the consumer response to spun silk underwear; first indications have been promising, however, and spinners express confidence in further expansion of this market. Demand for spun yarn by knitters for shirt manufacture has been on the increase during recent weeks. It is particularly welcome this season, inasmuch as demand from broadsilk mills for spring is abnormally low and backward.

Executives of several spun silk firms stated this week that volume of orders from underwear mills plus the steady call from woolen and worsted firms was larger than that from the manufacturers of spun silk broadgoods. This is significant as up to this year, the silk weavers have been the major consuming market for spun yarn.

▸ Hosiery Association Will Meet Jan. 12

A meeting of the officers and board of directors of the National Association of Hosiery & Underwear Manufacturers, to decide on a new managing director for the organization will be held Tuesday, Jan. 12, in New York City, it was announced this week by Louis R. Keeffe, acting secretary. The meeting also will hear a report of the committee on revision of the by-laws and will take up various other important matters.

▸ Wm. Whitman Reduces Cotton Yarn Sales Staff

Recent reductions in the cotton yarn selling staff of William Whitman Co., Inc., were explained this week by Hendricks H. Whitman, vice-president of the company, as due to a desire of the company to reduce a heavy overhead. The firm, he said, will continue its policy of specializing in high grade cotton yarns, especially mercerized and gray, and will sell the output of its two southern and two northern mills, through direct representatives in Philadelphia, New York and Boston.

The company also plans to lay further selling emphasis on its worsted yarns, Mr. Whitman added, and has taken on the following sales representatives: H. S. Hicks, formerly vice-president of Alfred Wolstenholme & Son, Philadelphia, who will represent the Whitman worsted yarn lines in the Philadelphia district, and Raymond Walsh whose territorial assignment was not made known.

The customers of the Whitman company were advised of the personnel changes in a letter sent out Friday, Dec. 18.

▸ Tobacco Company Uses Cotton Stationery for Annual Report

R. J. Reynolds Tobacco Co., Winston-Salem, N. C., following the example of other large industrial concerns, recently used cotton cloth stationery for its income report to stockholders and a letter from the company's secretary. Improvement in methods of finishing cotton cloth stationery has tended to increase its consumption as a substitute for pulp paper.

▸ Commercial Factors Adds to Textile Clientele

Commercial Factors Corp., New York, announces that it has signed contracts during the last several weeks with the following concerns: Boonton Full Fashion Hosiery Mills, hosiery; Brybro Fabrics, Inc., clothiers' linings; Cartex Mills, shirtings; Dacotah Cotton Mills, chambrays and shirtings; Thos. Kay Woolen Mills Co., men's wear woolens; Marlboro Cotton Mills, tire fabrics; Morgan Cotton Mills, tire fabrics; Reeves Bros.' Converting Dept., Kerr & Callaghan, shirtings; S. F. Scott & Sons, Inc., woolen overcoatings and suitings.

The total annual volume done by the above-mentioned concerns is reported to exceed $9,000,000.

▸ Western Group Approves Outerwear Ass'n Plans

The action of the National Knitted Outerwear Association in continuing the association on a part-time basis was approved at a meeting at the Hotel Sherman, Chicago, Dec. 4, of the Western District, Knitted Outerwear Manufacturers' Association.

Knit goods jobbers of the Western District will be invited to affiliate with the association and a meeting of the jobbers in the Chicago district is scheduled to be held in that city within the near future, according to H. L. Ashworth, business manager of the Western District.

The association passed a resolution of condolence in memory of David Shogren, Chicago, former vice-president of the Imperial Knitting Co., Milwaukee, who was killed in an automobile accident late in November.

▸ Riverside Mills Wages Campaign for Railroads

Riverside Mills, Augusta, Ga., is extending a helping hand to the railroads in their present difficulty by rubber-stamping at the bottom of outgoing letters "Ship by Rail!" Following this exhortation is a message to the effect that "The railroads are the backbone of America . . . Their future is being jeopardized by unregulated competition. This country cannot be prosperous without prosperous railroads. You will assist in developing prosperity by moving all your shipments by rail."

Riverside, through Thos. M. Anderson, salesmanager, is also sending out a mimeographed letter to its customers stressing the same subject and urging that more traffic be diverted to the railroads, and attaching a copy of "Man Power," the house organ of Chas. E. Bedaux Co., of New York, commenting on the fact that the railroads have found a friend in the Riverside Mills.

▸ Free Trips to the Leipzig Fair

Free trips to the Leipzig (Germany) Trade Fair, March 6 to 12, are offered to American business men in all parts of the country. The plan is taken as evidence of Germany's confidence in the future, despite the present financial uncertainty. The expenses of the trip from the United States to Leipzig and return will be refunded on the basis of orders placed at the fair, and refund will be made in cash at Leipzig during the fair. The Leipzig Fair maintains 19 offices and official representatives throughout the United States. The New York office has been moved from 11 West 42nd St. to 10 East 40th St.

▸ N. Y. Trade Board Studies Textile Problems

Committees of textile men representing cotton brokers, converters, finishers, factors, the wool, silk, pile fabric and drapery interests and bankers and retailers, have been formed by the Advisory Council of the Textile Section of the New York Board of Trade to consider outstanding problems of the trade. The council met recently at the Empire State Club, New York, when committees were named to take up the following subjects:

A consideration of the various problems represented by overproduction as evidenced by price-cutting, misrepresentation, piracy of design and other trade abuses; the relationships between the textile interests and the government as represented particularly by the Fed-

eral Trade Commission and the Sherman Anti-Trust Act; and problems presented by lax credit procedure, insolvency, together with a study of how present bankruptcy laws can be made more effective. Each committee will have a symposium meeting at which the results will be presented for the consideration and deliberation of the members of the Board of Trade.

▸ Hosiery Output Increases

Hosiery production in the United States in October was slightly above the September total, according to figures announced by the Bureau of the Census and based on reports furnished by 317 identical manufacturers representing 371 mills. October output of finished hosiery aggregated 4,882,575 doz. pairs against 4,640,241 doz. pairs in the preceding month. Among the groups which declined was women's seamless which fell from 454,609 doz. in September to 449,092 doz. in October; men's seamless also showed a drop. The increase was mostly in women's full-fashioned, men's full-fashioned and infants' hosiery. Net shipment position improved as follows: September, 5,014,353; October 5,206,074.

▸ Further Curtailment by Finishers in November

The National Association of Finishers of Cotton Fabrics has issued its monthly statement of percentage of normal average capacity operated in the industry covering October and November as follows:

	November			
	1931 4 Weeks		1930 5 Weeks	
White and dyed combined	44	45%-White 55%-Dyed	46	47%-White 53%-Dyed
Fast black	14		20	
Logwood and/or sulphur black	24		43	
Prints	60		55	

	October			
	1931 5 Weeks		1930 4 Weeks	
White and dyed combined	49	42%-White 58%-Dyed	51	47%-White 53%-Dyed
Fast black	18		22	
Logwood and/or sulphur black	30		41	
Prints	64		55	

▸ New Equipment at Clemson College

Clemson College (S. C.) Textile School recently installed additional equipment, including a 4-head Rhode Island braider, built by the Fidelity Machine Co., for the manufacture of Jacquard lacing, fish lines and round shoe laces; and an expanding and inspecting machine for hosiery and a countematic device, both built by Edward R. Ammon, Reading, Pa. In addition, The Merrow Machine Co., Hartford, Conn., has completed the installation of two seaming machines: Model 60D3B for producing a butted seam and Model 60RD for edging bedspreads, blankets, bath mats and similar articles.

Suggests Short Time Buying As Aid to Cotton Goods Stability

A POLICY of short time buying is suggested by Scheuer & Co., cloth brokers, New York, as a means for aiding the stabilization of the cotton goods market. In their weekly letter they outline this plan as follows:

As an accompaniment and aid to the curtailment effort, would it not be desirable to consider the advantages of stabilizing some of our merchandising habits, more especially buying practice? Specifically we have in mind a policy of short time buying. If all buyers of print cloths would rigidly limit their purchases to nearby requirements, say 30 days ahead, and would unswervingly maintain such a policy, we feel certain that an important degree of stability and confidence would be developed. On the other hand, if all sellers of print cloths made it an inflexible rule to limit all sales at all times for deliveries up to 30 days, the same favorable results would occur. As a matter of fact, both buyers and sellers could cooperate in the pursuit of such a policy and make it a trade practice.

To a large extent such a procedure would act as an automatic check upon wanton over-production, it would level the burden of curtailment, it would keep the cloth movement steady and reflect true demand more accurately. In sum, it would result in the greatest good to the greatest number. A more regular flow of business would be insured and price variations due to sales pressure would not be nearly as severe as we have recently experienced.

If such a procedure were followed, the onslaughts on the finished goods price level would be less severe and buyers of the finished product would gain confidence. This, all will agree, is sadly lacking today. Restoration of confidence cannot be attained by theory but by performance. Reasonable gray goods price stability is the underlying factor in the building of confidence throughout distributing channels. Obviously, individual initiative would not be unduly limited thereby; an individual mill might think it desirable to stock heavily and would do so on the basis of its judgment of the nearby demand situation. Such a mill would have to be prepared to finance the stock carrying burden and take the risks and profits which might accrue.

We would have to be educated to a radical change of this kind but it is clear that the steady, actual and effective demand for goods would stimulate a more regular and healthy cloth movement and make it possible to organize more intelligently the pricing and merchandising of such staple gray fabrics. The average ownership of merchandise as well as the average sale price would undoubtedly work out more satisfactorily. Certainly the price variations should be less extreme.

The safety factor in industry is important, we have been living too much on outguessing one another, mill and customer alike, and the procedure has been costly and ruinous. We have an industry which is unique today as compared to other industries; we are blessed with a very real consumption of our products. There are many industries which have no such outlook. They are almost without possibilities of sale, their markets are hopelessly locked. Our products at least are constantly moving into consumption and replenishments are inevitable. Our constant thought and effort then should be to eliminate the forces which dissipate our advantages. We cannot stop with curtailment, we must amplify it. If not by some such stabilizing plan as outlined, by others which might better fit the need.

▸ Hosiery Dyers Discuss Problems at A.A.T.C.C. Meeting

Problems encountered in processing various types of hosiery were discussed by three speakers at the November meeting of the South Central section of the American Association of Textile Chemists and Colorists. L. E. Milliken, related his experiences in bleaching cotton hosiery and noted the precautions necessary in handling goods containing wool and rayon; style changes in and the necessary modifications in processing were described by Nestor Grotelueschen; G. H. Dubois advocated the one-bath method of hosiery dyeing and spoke of the importance of making test dyeings on goods containing immunized cotton. Noel D. White, vice-chairman of the local section, presided at the meeting, which was held in the Hotel Patten, Chattanooga.

▸ Betsch Nominated Head of Silk Credit Group

W. G. L. Betsch, William Iselin & Co., Inc., has been nominated as group chairman for 1932 of the Uptown Credit Group of the Textile Industry, affiliated with the Silk Association of America, Inc. A. W. Hamilton of Commercial Factors Corp. has been nominated as vice-chairman, Ramsay Peugnet, Silk Association, as secretary and treasurer, and Albert B. Heller, B. Edmund Davis, Inc., as recording secretary. Elections will take place on Jan. 14.

▸ N.R.D.G.A. Holds Annual Convention in N. Y. Feb. 1-5.

Various problems of interest to textile manufacturers will be considered at the twenty-first annual convention of the National Retail Dry Goods Association, to be held at the Hotel Pennsylvania, New York City, Feb. 1 to 5, inclusive. Cooperation between manufacturers and retailers will be stressed.

▸ Durham Gets Army Order

The Durham (N. C.) Hosiery Mills have been awarded contracts by the army quartermaster's depot at Richmond, Va., for 394,790 pairs of cotton socks at 6.24c. per pair, net.

NEWS about MEN

Frank J. Farrell, president of the Silk Association of Great Britain and Ireland, chairman of Alliance Artificial Silk, Ltd., head of Grout's, Ltd., and Joshua Wardle, Ltd., returned to England last week on the "Berengaria" after a brief trip to Canada and the United States.

Charles A. Cannon, president, Cannon Mills Co., Kannapolis, N. C., recently announced that he will entertain members of Company E, Concord (N. C.) unit of the North Carolina National Guard, at the fourth annual banquet given by him on New Year's Eve, to be held in the ballroom of the Hotel Concord.

E. A. Terrell, president of the Terrell Machine Co., Charlotte, N. C., spoke before the Tompkins Textile Society of the North Carolina State College, using as his topic, "The Distribution of Textiles." This was the second of a series of semi-monthly addresses to be delivered by men prominently connected with the textile industry.

Alfred T. Lustig, president of the Appońaug (R. I.) Co., who became seriously ill last week while at Hot Springs, Va., has been reported as being out of danger. Mrs. Lustig, however, who hastened to Hot Springs when her husband became ill, was operated on for appendicitis shortly after her arrival there.

Sidney S. Paine, president of the Textile Development Co., Greensboro, N. C., and Boston, Mass., addressed the Greensboro chapter of the American Institute of Banking, at its third forum meeting, Dec. 11.

Crawford F. James, proprietor of the Elizabeth James Mills, Marion, N. C., who recently bought the Marianna Hotel there, has had the building remodeled and renovated. The hotel is now open under the management of his brother, **J. M. James,** and will be known as the Hotel James.

William Meyer, president of the Apex Hosiery Co., Philadelphia, has recovered from his serious illness which kept him away from his office for about two months. Mr. Meyer is president of the National Association of Hosiery & Underwear Manufacturers.

James H. Mahoney and **Jesse A. Knight** have been elected to the board of directors of the Wamsutta Mills, New Bedford, Mass. Mr. Mahoney is vice-president of the Star store, New Bedford, and Mr. Knight was at one time agent of the Manomet Mill, New Bedford.

Henry E. Stehli, treasurer of Stehlisilks Corp., New York, returned last week from a six weeks' visit to European markets.

Samuel D. Bodin, secretary of Louisville (Ky.) Textiles, Inc., was elected president of the Kiwanis Club of Louisville at the annual business meeting held recently.

Walter E. Gleadall, former president and treasurer of the Merit Dyeing Co., Inc., Philadelphia, has become head dyer of the Magnet Mills, Inc., Clinton, Tenn.

George Walker has been named secretary of the board of trustees of the New Bedford (Mass.) Textile School. Mr. Walker, who is an overseer at the Nashawena Mills, New Bedford, succeeds **James O. Thompson,** who resigned, after serving as secretary for 21 years.

Charles LaBonte was elected president of the Androscoggin Valley Millmen's Association at the annual meeting in Lewiston, Me., held recently. **Thomas Norton** was elected vice-president, **J. A. Cloutier,** secretary, and **J. W. R. Morrison,** treasurer. **Harry F. Keenan,** of the Melrose Chemical Co., New York, was the principal speaker at the meeting.

Raymond S. Bartlett, connected with the American Woolen Co. for many years in an executive capacity, has organized Raymond S. Bartlett & Associates, Boston, consultants in woolen, worsted and merchandising problems.

R. J. Cheatham, senior technologist, Division of Cotton Marketing, Bureau of Agricultural Economics, Washington, D. C., delivered a paper on "Cotton Cloth for Curing Concrete," at the meeting of the Carolinas branch of the Association of General Contractors, held in Charlotte, N. C., Dec. 10.

Gion Bonazzi, sole European agent for E. Gerli & Co., New York, and one of the largest raw silk reelers in Italy, arrived last week on one of his periodic visits to the United States. He usually spends several weeks in New York.

Siegmund Berger, general manager of Arthur I. Darman, Inc., Woonsocket, R. I., dealers in wools, tops, noils, and waste, sailed on the "Ile de France" for a combined business and pleasure trip. He will visit relatives in Czechoslovakia; England, France, and Germany are also included in his itinerary.

W. T. Quillen has become associated with the Imperial Printing & Finishing Co., Cranston, R. I., in a plant-executive capacity. He has been doing special work with the Southern Bleachery, Inc., Greenville, S. C.

Harry Metzger, formerly sales manager for the Alderwood Knitting Mills, Portland, Ore., has been appointed sales manager of Columbiaknit, Inc., Portland, Ore., succeeding **J. Friedenthal, Sr.,** president, who will devote his time to the organization as a whole.

Kenneth H. Kendall has resigned as sales manager for men's wear division of the Hamilton Woolen Co., Southbridge, Mass. His future plans have not been announced.

D. H. Byerly, formerly with the Westinghouse Electric Mfg. Co., Springfield, Mass., has been appointed merchandising manager of the elastic products department of the Russell Mfg. Co., Middletown, Conn. The position is newly created.

Harold E. Miller has been appointed merchandise manager of the Luxite Silk Products Corp., Milwaukee, Wis.

Benjamin S. Dowdell, who resigned as traffic manager of the Hummel-Ross Fibre Corp., New York, has accepted a similar position with the Tubize Chatillon Corp., New York. Mr. Dowdell

Textile Calendar

Wool Blanket Manufacturers, Quarterly meeting, New York, Jan. 14, 1932.

Textile Forum, N.A.C.M., for master mechanics, Chamber of Commerce Bldg., Boston, Mass., Jan. 14, 1932.

U. S. Institute for Textile Research, meeting of Research Committee, Chemists' Club, New York, Jan. 21, 1932; meeting of Executive Committee and Board of Directors, Jan. 22, 1932.

Textile Forum, N.A.C.M., for overseers of warp preparation and weaving. Chamber of Commerce Bldg., Boston, Mass., Feb. 11, 1932.

Textile Forum, N.A.C.M., for overseers of dyeing, bleaching and cloth room, Chamber of Commerce Bldg., Boston, Mass., Mar. 10, 1932.

National Association of Hosiery and Underwear Manufacturers, Annual Meeting, Commercial Museum, Philadelphia, Pa., April 14, 1932.

Knitting Arts Exhibition, 28th Annual Show, Commercial Museum, Philadelphia, April 11 to 15, 1932.

Textile Forum, N.A.C.M., General Meeting for agents and superintendents, Chamber of Commerce Bldg., Boston, Mass., April or May, 1932. (Date is to be announced later.)

Second National Cotton Week, nation-wide promotional campaign, May 16 to 21, 1932.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

James F. Hallinan

James Gould

James F. Hallinan and James Gould, formerly assistant vice-presidents, have been elected vice-presidents of Commercial Factors Corp., effective Jan. 1.

Mr. Hallinan, who is 39 years of age, is in charge of the company's new business and advertising departments. He has been in the textile field since 1912, commencing in the employ of Fried Mendelson & Co. In 1927 he joined the Credit Department of Frederick Victor & Achelis, Inc., and shortly after the merger of this company with Peierls, Buhler & Co., Inc. was placed in charge of new business and advertising. He was appointed assistant vice-president in April, 1938.

Mr. Gould, who is 37 years of age, joined Commercial Factors Corp. early this year. Prior to his present connection he was for six years vice-president of the Shawmut Corp., a subsidiary of the National Shawmut Bank of Boston, Mass. He began his business career with the Bankers Trust Co., remaining with that organization in the credit department and the securities department until 1925.

has been traffic manager of the du Pont company, and at one time served as secretary of the chamber of commerce and as traffic advisor at Elkins, W. Va.

Walter L. Davis, assistant superintendent of the **Proximity** Cotton Mills, Greensboro, N. C., completed 25 years of continuous service last month. He started work at the age of eleven as a sweeper and doffer; he has been assistant superintendent of the above plant of the Proximity Mfg. Co. for four years.

Jerome Davenport of the Chicago office of American Woolen Co. has resigned but has not yet announced his future plans. While there he specialized in blanket fabrics.

Kenneth C. Cole, cotton inspector at the Pepperell Mfg. Co., Biddeford, Me., for several years, has accepted a position as cotton weigher for New England Industries, Inc., an Insull organization. He will make his headquarters at Lewiston and will have charge of all the cotton weighing at the Hill Mfg. Co. and Androscoggin Mills there, as well as at the Edwards Mfg. Co., in Augusta, Me., and at the York Mfg. Co., Saco, Me.

F. S. Arnold, formerly employed at the Weybosset Mills, Providence, R. I., has been made assistant superintendent of the yarn department in the **Atlantic Mills,** Stottville, N. Y.

Jesse Bottomley has left the Strook Mills, Newburgh, N. Y., to become cloth superintendent at the Fulton (N. Y.) Mills.

Frank H. Ernst, assistant to the plant manager of the DuPont Rayon Co., Old Hickory, Tenn., has returned to work after an illness of several weeks.

W. R. Forsthoff, who represents the American Glanzstoff Corp. in Northern New Jersey, will also handle the yarn sales in Northern New York, taking over the territory formerly represented by **John R. Kenworthy,** Amsterdam, N. Y. Mr. Kenworthy will continue to represent the Aberfoyle Mfg. Co., of Chester, Pa., and Belmont, N. C.

Henry A. Lineberger, southern representative of the Aberfoyle Mfg. Co., Belmont, N. C., and Miss Amelia O'Hanlon, of Winstom-Salem, N. C., were married Nov. 25.

Benjamin Harskowitch, formerly New York representative of Firth & Foster Co., Philadelphia, will be New York representative of the Hart Dyeing Co., Philadelphia.

Donald Lamphere, until recently with the Louis Terry Corp., Chicago, Ill., has gone to the Flora, Ill., plant of the Sexton Mfg. Co., Fairfield, Ill., which will specialize in men's rayon underwear.

Obituary

George Moyer

George Moyer, general manager of the Textile Machine Co., Reading, Pa., died last week at the age of 71 years. Although he had been in failing health for the last few years his condition was not considered serious until four weeks ago. Before entering the employ of the textile machine company, Mr. Moyer was manager of the Enterprise Co., Philadelphia, manufacturers of meat dealers' and grocers' equipment. He was a Mason and a member of several clubs. Surviving are his widow, one daughter, a sister and a brother.

David W. Shirreffs

David W. Shirreffs who retired a few years ago from the Worumbo Mfg. Co., Lisbon Falls, Me., died recently at his home in Fulton, N. Y., in his 69th year. Born in Aberdeen, Scotland, Mr. Shirreffs went to Canada in the early seventies with his father. He received his first textile training at the Paton Mfg. Co., Sherbrooke, and at the Rosamond Woolen Co., Ltd., Almonte, Ont., Canada. He came to the United States in 1896 and was employed in various mills in New England. He became superintendent of the Shirreffs Woolen Co., Fitchburg, Mass., of which his brother, the late John Shirreffs, was agent and treasurer, subsequently becoming buyer of woolens for Brokaw Bros., New York, from where he went to the Worumbo company.

Gustav Ehrenzweig

Gustav Ehrenzweig, European manager for the Susquehanna Silk Mills, New York, died recently in Paris, at the age of 63 years, as the result of an emergency operation. Mr. Ehrenzweig came to the United States about 40 years ago and joined the staff of the Royal Embroidery Works, later known as Naday & Fleischer; he left there in 1924 to join the Susquehanna Silk Company as manager and stylist of the dress silk division. About six months ago he was appointed European manager for the company. Mr. Ehrenzweig is survived by his widow and a son, Peter, associated with A. D. Julliard & Co., New York.

Francis R. Larkin

Francis R. Larkin, who was on the executive staff of the Celanese Corp. of America, died Dec. 10 at his home in New York. He was 41 years old. Mr. Larkin was graduated from Princeton University, class of 1911, and served as a lieutenant in the American Army during the World War. After the war he obtained a law degree at New York University. He was the brother of John A. Larkin, vice-president of Celanese Corp.

NEWS about MILLS

Cotton

Avondale Mills, Birmingham (Ala.) Dept., have purchased overhead blowing equipment from Firth-Smith Co., Boston, for installation in their various plants at Birmingham, Sylacauga, Alexander City, and Pell City, Ala. One unit of the Barber-Colman system of automatic spooling and high speed warping is also being installed in the Alexander City plant.

Avondale Mills, Pell City (Ala.) Plant, are installing several frames of Whitin Casablanca long draft spinning to replace an equal quantity of old spinning. This plant is also installing one unit of Barber-Colman high-speed spooling and warping equipment.

Cabot Mfg. Co., Brunswick, Me. During the last six weeks the mill has been going at the approximate rate of 30% capacity. The company is preparing to increase this schedule slightly and one or two departments may do some night work in order to balance production.

York Mfg. Co., Saco, Me. Stockholders have received letters asking if they are willing to have mills 7 and 8 of the plant sold to another concern for manufacturing purposes. No buyer is named but it is inferred that a leading textile machinery company might be interested in purchasing the buildings.

Berkshire Fine Spinning Associates, Inc., Fall River, Mass., opened two units last Monday which put all local departments of the company in operation. The Parker "C" and King Phillip "E" divisions are the two which resumed operations. About 400 employees returned.

Firestone Cotton Mills, New Bedford, Mass. In conjunction with announcing a 10% wage cut effective last Monday, the management gave assurance that the plant would continue operating through the winter, giving employment to about 1,200 workers. The company has been running on a part time schedule but will go on a five day week of three shifts soon, until April according to the forecast of officials.

***American Gauze & Cotton Co.,** Cape Girardeau, Mo. The plant will be ready for increased operation early in the new year. New machinery of a late type is being installed.

***Anchor Mills Co.,** Huntersville, N. C., recently awarded a contract to the Walker Engineering Co., Gastonia, N. C., for modernization and renovation work, including the overhauling of all card room machinery, rearrangement of spinning, spooling and warping equipment, and the erection of winders. This work is being handled under the direct supervision of J. W. Walker and L. O. Bunton.

***Marion (N. C.) Mfg. Co.** The installation of 30 new looms has been completed. The new cotton warehouse, with 4,000 bales capacity, is also ready.

Baxter, Kelly & Faust, Inc., Philadelphia, Pa. The mill of this company at C and Tioga Sts. was damaged by fire recently. An official estimate of the loss has not been announced. The damage will be replaced.

*Indicates previous mention of project.

***Social Mill,** Woonsocket, R. I., of the **Manville-Jenckes Co.,** Pawtucket, R. I. Plans for razing the mill will be held in abeyance pending possible disposal of the buildings. All the machinery has been dismantled.

***Valley Queen Mill,** of the **B. B. & R. Knight Corp.,** at West Warwick, R. I., has been sold to the Original Bradford Soap Works, of Providence and Woonsocket, R. I. Looms and other machinery have been sold to the **Strowd-Holcombe Cotton Mill, Inc.,** Birmingham, Ala., which was closed for about a year before its sale last April to J. F. Ames, Selma, Ala.

Wool

California Woolen Mills, Santa Ana, Cal. The plant will open in about 60 days, according to Leonard J. Meyberg, Los Angeles attorney for the trustee in bankruptcy, Harry Levinson. The plant has been closed for some time.

Kezar Falls (Me.) Woolen Co., has stopped night work. Many workers from other towns who have been employed on the night shift for some time have returned to their homes.

Odsonia Worsted Mills, Jamestown, N. Y., branch of the **Cleveland (Ohio) Worsted Mills Co.,** will be moved to Ravenna, Ohio. A new building is being constructed by the P. L. Frank Construction Co., Ravenna, to house all the machinery of the Jamestown plant. The **Redfern Worsted Mills,** another branch division, are already located there. Officials of the company expect to require about 50 additional hands when the move is made.

***Globe Mills,** Utica, N. Y., of the **American Woolen Co.,** report progress in overhauling the property; the newly arrived equipment will be installed in a few weeks.

***Beaver Mills** will be the name of the new concern reorganized from the former **Beaver Worsted Mills, Inc.,** Frankford, Philadelphia. The company is now in its new quarters, 30th and Reed Sts., where the Middishade Co. is located, and will be under the management of Samuel D. Manuel; it has also added 20 more looms, bringing the total to 40 for the manufacture of men's wear fabrics. The product will be sold direct by Mr. Manuel as heretofore.

Premier Worsted Mills, Bridgeton, R. I., which have been operating three days a week, have gone on a full time basis. An order has been received which will keep the plant in operation for some time.

Knit

Utica Knitting Co., Mill No. 9, Anniston, Ala. Arrangements for an addition calling for the expenditure of $100,000 are nearing completion. The Avalon Building Co., which built the initial unit in 1926, and a second one in 1929, will be in charge of the project. It is expected that this addition will increase the present payroll by 50%.

***Bear Brand Hosiery Co.,** Kankakee, Ill., is proceeding with brick superstructure for new four-story addition, for which the general contract was recently let to the Immel Construction Co., Fond du Lac, Wis. An award for miscellaneous steel and iron work has been made to the Edward Pratt Sons Co., Kankakee. C. P. Hubbard, Chicago, Ill., is the engineer.

Everett-Norfolk Co., (Dartmouth Mills), Lebanon, N. H., is closing for an indefinite period. Some of the machinery is being moved to other plants associated with William Iselin & Co., New York.

O'Melia Silks, Inc., Fonda, N. Y., are making ready to resume operations following plant repairs.

***Barnett Knitting Co., Inc.,** Fort Plain, N. Y. Joseph H. Reaney, St. Johnsville, N. Y., has been appointed receiver of the company, following a special meeting of stockholders held last week. The merchandise of the mill will be bid in by creditors of which the American Woolen Co. is the largest. The plant has been in operation about six months.

Setz-Right Hosiery Mill, Hickory, N. C., will soon begin the operation of a finishing plant which has just been completed as an addition. The number of employees will be increased to 125. Work on a new boiler room is progressing satisfactorily.

Chas. A. Wanner Hosiery Mill, Fleetwood, Pa., has increased its working force and is running full time.

United Globe Knitting Mills, Inc., Philadelphia, are in receivership to adjust their book assets of $192,028 to meet total liabilities of $144,847. The action was taken in a friendly equity suit filed by the Albany (N. Y.) Woolen Mills, Inc., a creditor for a sum in ex-

cess of $3,000, and William H. Sabol, holder of 75 shares of the outstanding 1,000 shares of capital stock. The litigation was consented to by the board of directors. Joseph Schwab, a stockholder and officer of the company, will represent the stockholder interests, and Harry J. J. O'Neill, the creditor and other interests.

Triumph Hosiery Mills, Inc., York, Pa., have operated 24 hours a day, six days a week for the entire current year; orders on hand indicate a continuance of this schedule until July 1.

R. I. Knitting Co., Woonsocket, R. I. Machinery, raw material, and a quantity of finished goods were sold through bankruptcy on the premises on Dec. 2 for about $10,000. The real estate was not disposed of because no bidder would offer more than the $19,000 in encumbrances.

***Charles H. Bacon Co.,** Loudon, Tenn. W. H. Sears has been retained as architect for the new building to be erected.

Pannill Knitting Co., Martinsville, Va., has purchased a lot, 150 x 160 ft., south of the present plant, for the purpose of building a four-story mill with basement, construction to start in the early part of 1932. The plant, established in 1925, has been working on a full time schedule for some months, running part of its equipment 24 hours a day.

***Grover Knitting Mills, Ltd.,** Montreal, Que., Canada, have placed orders for 28 "Banner" new type 12 step hosiery machines, in addition to 40 sewing and seaming machines from Wilcox & Gibbs, the Morrow Sewing Machine Co., and the Singer Sewing Machine Co. The new equipment will be used in the firm's new building, the construction of which has nearly been completed.

Silk

Willimantic (Conn.) Silk Co., Inc., is operating on a 24-hour schedule of three shifts. Completion of the new unit now in progress, will call for 70 additional employees.

Jno. Dunlop's Sons, Inc., Massena, N. Y., have resumed operations with only preparatory machinery, owing to the fact that a change in electric current is being made in the town from 25 to 60 cycles.

Belding-Heminway Co., New York, has disposed of its mill at 4283-85 Park Ave., Bronx, totaling about 20,000 sq.ft. of floor space, to the Lenox Roofing & Sheet Metal Works, Inc., which will occupy it for another line of production.

American Silk Throwing Co., Reading, Pa. A petition of involuntary bankruptcy has been filed in the U. S. District Court, Philadelphia. The creditors named are Frank T. Chandler, $709; Philadelphia Belting Co., $13.00; and Loose & Dillsworth, $42.00.

Maue Silk Corp., Shamokin, Pa., recently organized with a capital of 5,000 shares of stock, no par value, to operate a broadsilk mill, will be represented by Fred W. Maue, South Fifth St., Shamokin, treasurer. Philip Maue will be an official of the new company.

***M. E. Binz Co., Inc.,** of Midland, N. J., which has opened a textile mill at Montmagny, Que., Canada, expects to increase the staff there to 300 by next spring. One hundred hands are now engaged.

Ruth Silk Co., Inc., Paterson, N. J., recently organized with a capital of 100 shares of stock, no par value, to operate a local broadsilk mill, will be represented by Jacob L. Bernstein, 5 Colt St., Paterson, attorney. The incorporators include Jack Rosen and Theodore Fougel, Paterson.

**Indicates previous mention of project.*

Rayon

***Princeton Rayons, Inc.,** Watertown, Conn., a branch mill, are operating on full time with a working force of 450, in the plant purchased from Belding-Heminway Co.

Celanese Corp. of America, Amcelle, Md., has called back 600 employees who have been idle for more than two weeks. On Nov. 15, the personnel, which is normally 3,000, was reduced to 2,000. The shutdown was occasioned by the regular annual plant overhauling.

***Yarns Corp. of America,** Spartanburg, S. C. The sale of the property along with 200 shares of Commercial Rayon Dyeing Corp., a subsidiary, and 100 shares of the Unity Realty Co., Allentown, Pa., occurred on Dec. 7. The property and stock was sold to Horace L. Bomar, Spartanburg attorney, at public auction, the property bringing $50,000. Central National Bank, the plaintiff, has been awarded a judgment of $244,000, with interest from Sept. 1, 1931. Henry J. Blackford, treasurer of A. M. Law & Co. is the receiver.

Finishing

Fabrics Finishing Corp., Paterson, N. J. Equity receivers for this company have sold all the mills and the affairs of the organization are being closed. Federal Court has allowed a joint fee of $67,400 to the three receivers, Carlyle Garrison, C. S. Adams and John F. Evans.

Edgewater Dyeing & Finishing Co., Frankford, Philadelphia, dyer and finisher of cotton goods, has purchased the buildings it occupies.

Salmon Hosiery Finishing Works, Philadelphia, Pa., sustained a damage by fire at their mill on Dec. 9. An official estimate of loss has not been announced but the damage will be repaired.

Miscellaneous

American Narrow Fabrics Co., New Haven, Conn., has been incorporated to manufacture elastic tape, braid, etc., with a capital of $100,000. The incorporators are: R. H. Clark, Derby; G. R. Tiernan and M. E. Hotchkiss, both of New Haven.

Krintzman Dusting Mills Co., Inc., Worcester, Mass., was incorporated Nov. 16 with a capital stock of 500 shares of common stock without par value. It will succeed a wool waste business of the same name formerly conducted by Louis Krintzman. The new organization includes the following officers: Samuel Krintzman, president; Louis Krintzman, treasurer; and Abraham Krintzman, clerk.

South River, N. J. Paul Schuepp, Cliffside Park, N. J., has leased the one-story plant at 48 Charles St., South River, and will equip it for the manufacture of embroidery threads and thread-cutting for machine embroidery plants. It is proposed to have the plant ready for service by the end of this month.

Textile Mills Corp., 246 West 38th St., New York, has purchased a mill at 318-20 Eleventh St., near Hudson Ave., West New York, N. J., and will occupy for a new plant.

Spotsadonna Mills, Inc., Stuart, Va., have been chartered with a capital of $50,000, to own and operate a textile mill. S. A. Thompson, of Stuart, attorney, applied for the charter.

Business Literature

Belting. J. E. Rhoads & Sons, Philadelphia, Pa. Specifications, price list, applications, and general information in regard to leather belting is contained in a convenient 70-page booklet issued by the company. Various belt accessories are described and precautions to be taken in setting up and caring for belting are outlined. Brief write-ups on short-center drives and group and individual drives are of particular interest.

Castings, Alloy Steel. The Duriron Co., Inc., Dayton, Ohio. Corrosion-resistant properties and technical data in regard to alloy steel castings produced by this company are contained in a brief, illustrated booklet.

Instruments. C. J. Tagliabue Mfg. Co., Brooklyn, N. Y. Controllers, recorders, thermometers, hydrometers, and oil testing instruments are described and illustrated in a comprehensive catalog recently issued by this concern.

Material Handling. Link-Belt Co., Chicago, Ill. Silent chain, roller chain, herringbone speed reducers, herringbone gears, positive variable speed transmissions, and malleable iron and steel chains are the subjects discussed in a material handling and power transmission data sheet recently issued by the company. In short, it consists of a series of suggestions for selecting the proper positive drive for any given service.

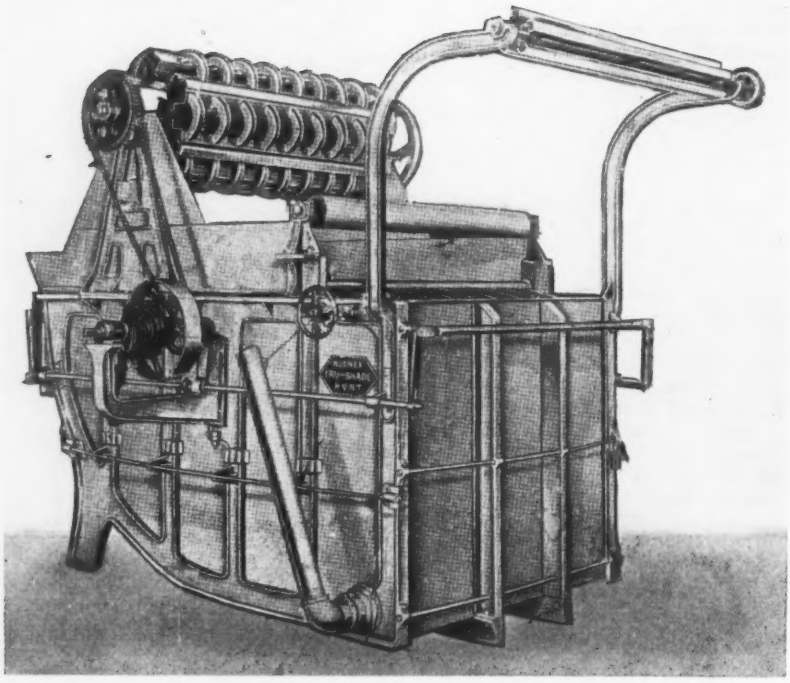
Spindle Bearings. SKF Industries, Inc., New York City. This 19-page booklet describes advantages and constructional features of the SKF pre-loaded ball bearings.

Trichlorethylene. Roessler & Hasslacher Chemical Co., Inc., New York. Booklet of 38 pages outlines the principal industrial uses and applications of this product and contains worth-while information on the subject of extraction, degreasing, and dry-cleaning of textiles.

Twisters, Spinners, Winders, Reels. Atwood Machine Co., Stonington, Conn. A series of illustrated bulletins recently issued by the company describe the outstanding features of these various machines.

V-Belts. L. H. Gilmer Co., Tacony, Philadelphia, Pa. 62-page booklet describes advantages of V-belt drive, cites examples of various applications, and outlines various calculations concerning this type of drive. Price list and belt and pulley specifications are supplied.

New Machinery *and* Processes



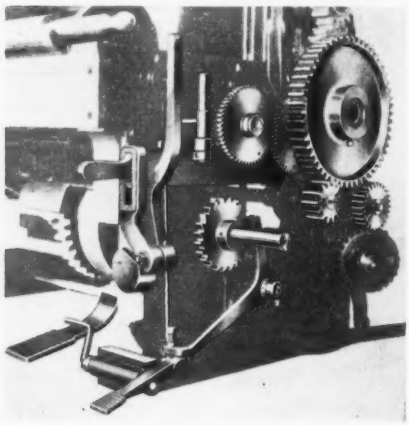
All-metal dye kettle has unique features

Dye Kettle

ANNOUNCEMENT is made of the addition of the new Tru-Shade dye kettle to the line of dyeing equipment manufactured by Rodney Hunt Machine Co., 66 Mill St., Orange, Mass. The tub portion of the kettle is constructed of plate 18-8 stainless alloy, or its equal, with all joints electrically welded. Accessory fittings, such as the steam coil, pin rail, pin, level-control drain, plug drain, front partition, water box, etc., are of the same metal. The reel likewise is made entirely of 18-8 stainless alloy, including shafts, spiders, nuts, bolts, lock washers, bars, and humps. The kettle is made on usual cast-iron frame with cast-iron intermediate supports, all parts being securely rodded and trussed.

The manufacturer of the equipment states that extensive tests indicate that from a dyeing standpoint this stainless-steel construction offers the nearest approach to glass-beaker dyeing which is commercially available. It is said, for example, that practically all types of dyes are handled without affecting the shades, and without appreciable deterioration of the metal itself. Removable humps, which permit the reel to function in a double capacity, are among the unique features of the equipment. By loosening four nuts, each strip of humps can be removed from the reel, allowing fabrics which do not call for the hump reel to be run in the same kettle with very little change. Thus, one kettle is equipped to run as a hump-reel kettle, or as a slatted reel kettle.

Bearings are of the anti-friction type throughout and are inclosed in water- and grease-proof housings. The reel and squeeze roll, when used, are driven by roller chain. An additional advantage cited for this equipment is that long life may be expected, as there are practically no parts to wear out, and nothing to shrink, swell, or leak.



Automatic rack release designed to greatly reduce doffing time and prevent bad work

Automatic Rack Release

INSTALLATION of a new automatic rack release as standard equipment on pickers is announced by Saco-Lowell Shops, 147 Milk St., Boston, Mass. The mechanism is simple in nature and can be quickly applied to existing pickers.

Reference to the accompanying illustration will assist the reader in obtaining a clear picture of the method of operation of this device. When the lap is completed and the drop lever falls, the foot starting lever is depressed by means of the vertical rod connecting the two levers. This causes the crank arm to depress the friction lever, permitting the natural elasticity of the lap to raise the calender racks from the lap pin, thus relieving pressure on the lap. As the rear end of the foot starting lever descends, the pawl at its extremity engages the ratchet, holding up the calender racks. When the operator starts the machine, the depression of the front end of the foot starting lever and the consequent raising of the rear end disengages the pawl from the ratchet and permits the lowering of the calender racks. The operator, therefore, is relieved from all work attendant to raising the calender racks, this becoming an automatic operation.

The manufacturer cites the fact that this device greatly reduces the time consumed in doffing. Tests conducted in a New England mill indicate that a single operator may be expected to doff and start six single-process pickers in 1½ min. It is reported that in another test a lap was allowed to run for 3 min. after the pressure had been released, and an examination later showed that there was no indication of felting, stretching, or splitting.

Oxidation-Resisting Oil

WHAT is said to be a greatly improved process for rendering oils resistant to oxidation has been developed at the research laboratories of National Oil Products Co., Harrison, N. J.

The advantages of a textile oil in which oxidation has been reduced to a minimum have long been recognized. It is well known that oxidation accelerates rancidity and that rancidity, besides developing an abnoxious odor, has a tendency to weaken textile fibers. It is also generally recognized that the formation of oxycellulose has a tendering effect upon fibers and renders them resistant to some classes of dyes.

It is stated that the new oil has been subjected to severe oxidation tests with satisfactory results, and the company intends to place the new product on the market in the near future.

Protective Paint

FOR USE on steam and hot-water pipe lines American District Steam Co., N. Tonawanda, New York, has developed a protective paint which is said to have unusual efficiency. The product has been named Adsco Pipe-Kote 505 and, according to the manufacturer, possesses several important advantages.

It is impervious to any degree of heat generated by the steam; it is practically immune to the action of moisture, dilute acids, and alkalis; and while it produces a hard, tenacious coating, it is sufficiently elastic to expand and contract with the pipe without cracking. While this paint is especially recommended for use on steam and hot-water lines, it is said to give equally satisfactory results for coating practically any surface exposed to extreme or rapid changes in atmospheric conditions.

Tiering Truck

A TIERING truck that steers with all four wheels, drives with the rear wheels, and is powered with a tractor-type gas engine is announced by the Clark Trucktractor Co., Battle Creek, Mich.

Four-wheel steering is feature of new tiering truck

It is cited that the new method by which all four wheels turn in response to the steering control enables the truck to get into tight places with its load. The turning radius is 94 in., and the truck is said to easily negotiate the corner of two intersecting 64-in. aisles with ample clearance on each side. The truck is provided with an hydraulic lifting mechanism, which, in addition to being free of complicated parts, is said to cushion the descending load without shock.

It is pointed out by the manufacturer that intelligent use of this tiering equipment will permit important savings in floor space by utilizing "air rights." The "Tiertop" model is especially recommended for factory and warehouse use. It is said to tier a 3-ton load to 6 ft. in 30 seconds.

The "Tiermore" model tiers 3 tons to 4 ft. in 18 sec., and, due to its low overall height, is said to be especially adapted to loading and unloading freight cars. Its mobility and the construction which permits the driver to have clear vision at all times are cited as important advantages.

Electric Space Heater

A NEW electric space heater, having for its heating element a nickel-chromium alloy, has been developed by Cutler-Hammer, Inc., 309 N. 12th St., Milwaukee. This contrivance is said to

Space heater with nickel-chromium element

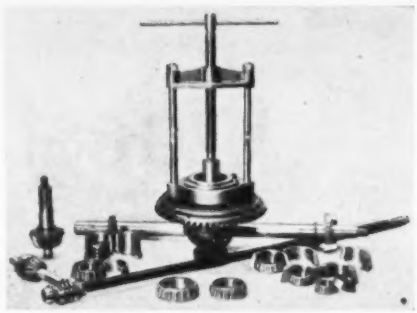
be entirely new in design, is 2 ft. in length, and is sturdily constructed.

What is stated to be a highly refractory granular compound is used for insulation. No cement or spacers are used. It is claimed that a new process of imbedding this compound under immense pressure makes the new space heater immune to vibration and jarring. The normal rated capacity for the device is 500 watts.

Dismounting Press

A DISMOUNTING press which is said to easily and quickly remove any type of anti-friction bearing without damaging the bearing is announced by Curtiss & Smith Mfg. Corp., 245-251 South St., Newark, N. J. It is stated that it also removes gears, spirals, pulleys, disks, collars, bushings—anything that fits tightly on a shaft and that can be removed by a push or a pull.

Instead of using a hammer, piece of wood, chisels, vises, or other time-consuming and destructive methods, the manufacturer states that any dismounting job of this type can be completed in a very short time and without harming the bearing, shaft, housing, or any other parts. The accompanying illustration shows the essential features of the device.



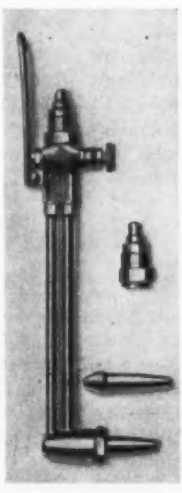
Device for removing tightly fitting pieces from shafts

Welding Torch and Cutting Attachment

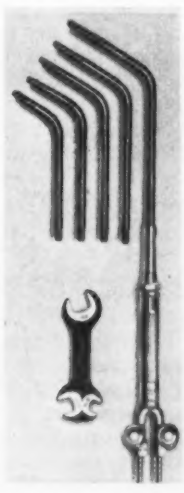
TWO new additions to its line of Purox medium-pressure apparatus for oxy-acetylene welding and cutting has been made by Linde Air Products Co., 30 E. 42nd St., New York.

The new Purox No. 11 welding torch has a wide welding range extending from the lightest sheet metal up to work as heavy as ½-in. plate. In spite of this wide range it is said that the torch is very light in weight and has good balance. The tips are of one-piece, hard-drawn copper construction and are so designed that the head angle can be adjusted as desired by the user. Tips Nos. 2, 4, 6, 8, and 10 are furnished as standard equipment.

The Purox No. 21 cutting attachment, designed for use with the No. 11 welding torch, will cut metal up to 2 in. in thickness. It is furnished with one- and two-piece Purox cutting tips. It is pointed out that, by means of this cutting attachment, the welding torch can be quickly converted into a cutting torch. This cutting attachment weighs only 1 lb. 8 oz. An adaptor is also available which makes it possible to use the No. 21 cutting attachment with the No. 20 welding torch.



Cutting attachment with tips and adaptor



Welding torch with five tips and wrench

Questions... *and* Answers

Making Cotton-Yarn Tests Comparable

Technical Editor:

The issues of Nov. 28 and Dec. 5 of TEXTILE WORLD contained some very interesting articles with reference to correction size factors and strength factors for cotton yarn. This, combined with the complete research of the United States Institute for Textile Research, shows that there is considerable interest today in the question of considering moisture in conection with sizing and testing of this material. I am outlining below some further information on the subject which I believe should be of interest to your readers.

The present-day situation in regard to comparison of cotton-yarn tests and the variations in strength and count due to regain changes on account of atmospheric varations can be solved in many different manners, but a simple and relatively inexpensive apparatus has been developed for accomplishing this in a practical manner.

It consists essentially of a regain scale which takes the form of a T-headed balance upon which a prepared element, made from cotton yarn, is suspended; and this is provided with a scale graduated in per cent of regain. In this manner the scale constantly indicates the amount of regain in the element, which, of course, is the same as other yarn exposed to the same atmosphere.

Regain being known, a calculation of corrected size is easily made by the following formula:

$$\text{Size corrected to standard moisture regain} = \frac{\text{Size} \times (100 + \text{actual percentage regain})}{107}$$

The above formula assumes that normal regain of untreated cotton yarn is 7%, i.e., 107% of the bone-dry weight. The correction of the strength-test results, however, is to the average operator a more complicated affair, the formula as established being:

$$\frac{\text{Tensile strength from machine reading} \times 142}{100 + (6 \times \text{actual percentage of regain})}$$

To simplify this calculation and to save time for the operator, the testing machine can be arranged with a movable resistance weight on the lever, upon which is placed suitable graduation to agree with the readings of the regain scale or the actual regain of the sample as determined by other means.

As all strength tests should be reported on the basis of 7% regain, the machine is made to read direct in pounds pull when the resistance weight is at seven on the graduated scale. To obtain the computed strength at any other regain condition of the specimen, it is only necessary to set the weight at the figure corresponding to the regain of the yarn at the time of test; and the dial of the machine will then indicate the amount of calculated strength at 7%, or standard regain.

The above calculations and the arrangement of apparatus for this work are based on the figures given in The American Society for Testing Materials — Committee D-13 — Standard Specification for Tolerances and Test Methods For Cotton Yarns, Single and Plied; A.S.T.M. Designation D 180-27.

The particular committee which formulated this standard and which is consequently responsible for the above formulas was composed of men representing the largest manufacturers and consumers of cotton yarn in this country, and it therefore seems logical to accept the findings of this committe as standard. It repreesents several years of work involving tabulation of existing records, and also considerable research on the subject in the various laboratories throughout the country.

DAVID C. SCOTT,
HENRY L. SCOTT CO.

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Streaks in Carbonized Fabric

Technical Editor:

I was interested in the item "Streaks in Carbonized Fabric," which appeared in the Question and Answers department of the Nov. 14 issue of TEXTILE WORLD. As I have had considerable experience in dyeing carbonized wool, I should like to add the following comments:

First, the stock in this piece is a very bad combination from the dyer's point of view, and the dyestuffs should be chosen carefully. If the inquirer is using chrome dyestuffs, he should apply them to this fabric by the chrome-bottom method, first making sure the pieces are absolutely clean. The writer has found it a good plan to boil all pieces in ammonia, and then to rinse thoroughly.

Second, the pieces should be rinsed thoroughly after the mordant bath.

Third, the dyebath should be brought slowly to the boil, in about 1 hr., and boiled 1 to 1½ hr. to insure leveling of the dyestuffs.

Fourth, if acid dyestuffs are employed, suggest that those colors which dye neutral or in a slightly acid bath be used.

Fifth, I should not, however, recommend acid dyes for this type of fabric, if other classes can be employed.

Sixth, I also suggest that the inquirer check his carbonizing equipment thoroughly for uneven saturating rolls, extracting rolls, etc.

H. W. DOYLE.

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Flax Manufacturing Problems

Technical Editor:

I am inclosing a sample of flax fiber tow which has been separated from the straw by my machine. This machine has been proved 100% perfect. Kindly give me some information as to whether there is a machine in this country for spinning and spooling linen thread made from the tow. I want to handle, in the factory which I am just starting, the entire product from the flax straw. I also intend to handle all of the shives for paper pulp and other uses. To my knowledge, I have the only machine in the world used to separate the fiber from its straw. Do you know of any such machine in existence? If so, I should be glad to know of it. (7770)

The inclosed sample is a very good flax tow considering that it was made, as we suppose, from seed-flax straw. It is not so soft as the retted tows of finer-grade fiber. Commercially, its value depends as much on the economics of its production as on the quality.

This tow could probably be made into good toweling or any other product that can be made of the coarser tow yarn. We do not think that satisfactory thread can be made from such tow yarn, and there is no linen-thread machinery made in this country.

It is our opinion that some other product will have to be made from this tow, and we would suggest having a sample of its spun by some linen mill before investing in expensive machinery. The best-known linen machinery is made by a large British firm.

No one has yet succeeded in making a commercially promising paper from seed-flax straw fiber or shive. This can be verified by referring to the United States Bureau of Standards or the Forest Products Laboratory of Madison, Wis. It is true that paper can be made; but it is almost certainly not a practical proposition, unless there are some very unusual conditions connected with this new venture.

Many machines have been invented to separate the fiber of flax straw from the shive. None, of which we have knowledge, however, would do very well for fine yarn; but there may be better, more recent, developments.

You probably recognize that this is a rather difficult proposition on which to give a fair opinion without a more complete knowledge of the machine and its product. Most American seed-flax products are greatly handicapped by the straw being scattered over an immense farming territory, by the fiber being over-ripe and brittle, and by marked seasonal variation in quality of straw.

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Count and Weight of Woolen Yarn

Technical Editor:

I was interested in reading your answer to inquiry No. 7732 as published in your issue of December 5, 1931.

The following is, in my opinion, a quick and easy way of finding the grain count of samples of yarn. Taking 7,000 grains and 1,600 yards in the pound, as in the run system, this gives you $4\frac{3}{8}$ grains per yd. or decimally 4.375 grains per yd. If 25 in. weighs 5 grains, 1 yd. will weigh $\frac{36 \times 5}{25} = 7.2$ grains per yd.

The writer always used the 50-yd. basis, which represents 218.75 grains for 50 yd.—87.5 grains for 20 yd. The inquirer says his sample yarn was 0.6 run. Now to prove it, 50 yd. $\times$ 7.2 grains $=$ 360 grains; 218.75 $\div$ 360 $=$ 0.6 count.

The figure 218.75 can be used as a constant number for finding either the count or weight. If count is unknown, reel 50 yd. and divide 218.75 by its weight in grains. If weight of any count is wanted, divide your constant number by the count number, and grains will be the result. If you choose to employ a 20-yd. basis, you can use 87.5 grains as your constant number.

G. W. Sheeley.

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Dark Bands in Lisle Hose

Technical Editor:

In the attached package we are sending samples of lisle hose which have the appearance of tiger stripes. These hose before being dyed showed no streaks or stripes at all. The knitter believes the fault to be in the yarn. The yarn was spun from Mississippi delta, white, strict-middling cotton on tape-driven spinning and twisting frames and was wet twisted. Four roving processes were used. If the fault is in the yarn, we believe it to be caused by the semi-fluid oil used on the twister rings or by some substance in the water used in the twister trought. (7754)

We are convinced that the trouble with these stockings originates in the yarns. We have tested the ply twist with the following results:

Twists in 10-In. Lengths

Dark Band 10 in.	Light Band 10 in.
150	153
155	153
151	157
140	148
144	146
154	147
148	156
140	146
157	144
143	138
148.2 average	148.8 average

These figures show 14.82 t.p.i. in one place and 14.88 t.p.i. in the other, indicating that the trouble does not lie in a difference in twist. We also tried some single-yarn twist tests, and these averaged so nearly alike that we eliminated trouble at this point as a possibility. We made the above trials because a difference in twist very often makes the yarn appear to have a different shade. This same factor can also make a difference in the absorption of dyestuffs or a difference in the effect of mercerizing.

Having eliminated these factors, we think that probably the trouble comes from uneven mercerizing. A difference in the luster, due to irregular mercerizing, can easily make yarn seem a different shade.

Uneven Silk

Technical Editor:

Enclosed are two stockings (in the gray) made on 45-gauge machines of a five-thread, 13/15-denier Japan silk having 15 turns per inch. You will note that the fabric is very uneven. Is it your opinion that the throwster is at fault; or do you believe that the cause of the unevenness is due to the silk being of a lower grade than 85%, which this is supposed to be? We do not believe it to be a knitting fault, for you will note that the feet—marked respectively 1 and 2—show that the same results have been obtained in shifting a given cone from one operation to another. (7734)

We do not think that the throwster is at fault, as the trouble is due entirely to uneven silk. While the silk in this particular sample is a lower grade than 85%, it does not necessarily mean that the bale from which it came would not average 85%. Defects of this nature are found in still higher grades than 85%. The number of penalties of such character is the factor which fixes the grade, and mills are obliged to accept such defects up to a given amount.

Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.

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Bone-Dry Weight

Technical Editor:

In testing rayon, I have had some difficulty in determining just when I am weighing on a bone-dry basis. How can I be sure that the rayon is absolutely bone dry? (7737)

Testing of this nature is usually carried out in a standard conditioning oven, weighings being made at 10-min. intervals. According to specifications adopted by Committee D-13, of the American Society for Testing Materials, cotton is considered to be bone dry when two successive weighings show a loss of less than 1/10 of 1%. This specification is also generally adopted for rayon testing.

One rayon-testing laboratory with which we are familiar maintains a temperature of approximately 105 deg. C. in its conditioning oven. This represents approximately 221° on a Fahrenheit basis.

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Warp Streaks in Rayon Crepe

Technical Editor:

We are enclosing herewith two 1-yd. samples of rayon crepe, greige construction, 90x52, 150-denier A-grade American Viscose warp and 100-denier inferior rayon crepe filling. Your opinion as to the cause of the streakiness in the warp found in these samples will be greatly appreciated.

Although we have not thoroughly investigated, it appears that out of a lot of several hundred thousand yards woven from different warps there are about 100 pieces containing this streakiness. (7726)

We have carefully examined the samples of rayon crepe and find that this streaky effect is caused more or less by irregular warp stock or heavy ends. We have taken both samples apart, and the difference in the yarn can be seen with the naked eye. Also, there seems to be a difference in the filaments of the warp stock; and we assume that this has been caused at the mill.

We suggest that the mill have someone examine the fabrics, as this trouble can easily be detected on the loom. It would be well to have the weavers remove heavy ends where they show up in the weaving.

DURENE

NATURAL - BLEACHED
AND COLORED —

YARNS

Main Office:

PHILADELPHIA

123 South Broad Street

James Building, CHATTANOOGA, TENN.
Manning St., HIGH POINT, N. C.

418 Franklin St., READING, PA.
222 North Bank Drive, CHICAGO, ILL.

52 Chauncy St., BOSTON, MASS.
261 Fifth Ave., NEW YORK

LOS ANGELES
HAMILTON, CANADA

Mills: CHESTER, PA., BELMONT, N. C.

ABERFOYLE MANUFACTURING CO.

◆ *Survey of Fabric, Knit Goods, Yarn and Raw Material Markets* ◆

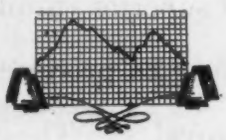
TEXTILE WORLD ANALYST

Silk, at New Low Levels Is Still Called Weak

By Dr. L. H. Haney

SUMMARY

The unfavorable statistical position, together with weak demand and disturbed financial conditions here and in Japan, make further recessions in raw silk prices probable.



YEN exchange has broken at this writing, the political situation in Japan grows more unsettled, and an outburst of liquidation and speculative selling has driven silk prices to new low levels. The reports that traders have been selling dollar silk in New York and buying yen silk in Japan, appear to be logical as Japan has gone off a gold basis. This puts pressure on dollar prices.

All this adds to the uncertainty and tends both to increase supply pressure and to decrease demand. It is probable that prices will work lower between now and the middle of January.

Bull Points

1. World production of raw silk in November was 6.5% below last year, and for the season the decrease was 1.6%.

2. The world ratio of demand to supply was more favorable in November. Japanese position also improved (National Raw Silk Exchange).

3. The adjusted index of stocks of raw silk at New York and Yokohama has declined for several months, while machinery activity increased until recently.

4. Japanese into-sight movement has decreased.

5. Silk spindle activity increased in October.

6. Stocks of silk goods in mill hands are not excessive. Stocks of silk goods (yards) at wholesale in New York on November 1, were 12.2% below last year.

Bear Points

1. The total world visible supply of 268,875 bales of raw silk was a new record figure.

2. The world consumption for the first five months of the season was 6.7% below 1930.

3. The stocks of raw silk at New York, in terms of bales, as well as the ratio of stocks to deliveries in November were the largest since February, 1930.

4. Deliveries to domestic mills declined more than usual during November.

5. Imports have increased and in November were at the highest rate compared with deliveries in recent years. Silk in transit is fairly large.

6. Loom activity, both broad and narrow, declined in October. Trade reports indicate further curtailment during November. Hosiery mill consumption has declined recently.

7. Broad silk production is being curtailed due to dull demand and style uncertainty. The replacement margins of manufacturers are unsatisfactory.

8. Deliveries are large compared with the activity of looms or spindles.

9. Stocks of silk goods at wholesale increased more than usual in October.

10. Sales of silk goods at wholesale in New York declined in October, both in terms of dollars and yardage, and were far below last year.

11. European markets are dull.

12. Japanese embargo on gold; sharp break in yen exchange.

13. Certificated stocks at new record high.

There has been a let-down in manufacturing operations and the supply situation is, on the whole, more burdensome. Therefore, in view of the renewed declines in security and commodity prices and the weakness of exchanges, lower raw silk prices are probable. When security prices rally, however, silk prices will probably show some temporary strength.

Statistical Position

The increase in domestic storage of raw silk during November brought the total up to the highest it has been since the end of February, 1930. In comparison with the current rate of deliveries, stocks were also the highest since then. A month ago, stocks were falling behind last year, but at the end of November had risen to a figure which was 36.6% above last year. The quantity of raw silk in transit is not so great as a month ago, but it is still abnormally large and indicates a probable further increase in stocks.

Imports during November did not equal the huge October figure, but were nevertheless quite large. They were 23.0% above last year and compared with the November rate of deliveries were the highest in a long period of years.

There was no offsetting gain in deliveries to balance the supply situation as was the case a month ago. Of the 67,999 bales imported, 17,354 was added to storage; hence it was estimated that 50,645 bales were "delivered." This figure was more than 10% below October deliveries and 11.7% below a year ago.

On the whole, this does not give a very bullish outlook. The prospect is for further increases in domestic stocks and a possible decline in deliveries. Both of these factors would tend to exert pressure on the raw silk market.

The world visible supply rose again to a new high figure, and on Dec. 1, it was 268,875 bales, against 263,421 a month previous and 236,738 a year ago. Of this total, there were 150,800 bales in Japan, which figure represents a decline of 3,000 bales for the month in the free stocks at Kobe and Yokohama. Another item, in transit, was 8,900 bales smaller than a month ago; but the decreases in Japanese stocks and in transit served only to check the rate of increase in the total supply, being more than offset by the increase in all classes of silk in storage in this country.

Increase in Activity Checked

The general increase in the index of silk manufacturing activity noted a

The analysis and forecast by Dr. Lewis H. Haney, Director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

SECOND ONLY TO CREATIVE GENIUS IS THE CHOICE OF WORTHY MATERIAL

SUPERLATIVE SPECIMENS OF MARQUETRY REFLECT THE SKILL OF 18TH CENTURY CLOCKMAKERS.

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Whitman Yarns are the basis of successful textile products

Definite production advantages have brought about the adoption of Whitman Yarns by a host of textile Mills. They are regular consumers because the uniformity and superior running qualities of these high-standard yarns enable them to produce superlative products that win and hold trade approval • These distinctive characteristics are built into all Whitman Yarns by close observance of an inflexible code based on the use of only the finest raw materials • Exacting. scientific tests at every stage of the spinning processes assure those exceptional qualities that make Whitman Yarns the chosen material for successful textiles.

Co-ordinating the services of this group of famous yarn mills

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French Spun Worsted

•

ARLINGTON MILLS
Bradford Spun Worsted

•

ACADIA MILLS
Mercerized Cotton

•

NONQUITT MILLS
Fine Combed Cotton

•

CRAMERTON MILLS
Fine Combed Cotton

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TALLAPOOSA MILLS
MARY LOUISE MILLS
High Quality Carded

WILLIAM WHITMAN COMPANY, INC.

COTTON and WORSTED YARNS

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month ago has been definitely checked. November deliveries of raw silk to mills, which usually decline almost 6% as compared with October, fell off more than 10%. The result was a decline in our seasonally adjusted index to 101.1% of the average for 1927-29, against 106.9% last month and 114.6% a year ago.

The only more-than-seasonal increase in the activity of machinery during October was confined to silk spindles. Thus a decline in the adjusted index of deliveries and an increase in the adjusted index of spindle activity brought about a more normal relationship between these two indexes (which should represent the trend of mill takings and mill consumption, respectively). The October ratio of deliveries to spindle activity, however, is still very high, and has been exceeded only about four times during recent years.

Broad-loom activity during October declined fractionally from September. The relationship between deliveries and looms, however, is nearer normal than in the case of deliveries and spindles. In general, our conclusion is that the spurt in silk manufacturing activity which carried the indexes to the highest levels since the first quarter of 1931 was largely a rebound from the shutdowns during the strike. The trend has changed and curtailment is now taking place. The relatively heavy deliveries have apparently left the average mill in a comfortable position as far as raw supplies are concerned, and, although hosiery mills were said to be covering requirements in November, their takings appear to have fallen off recently.

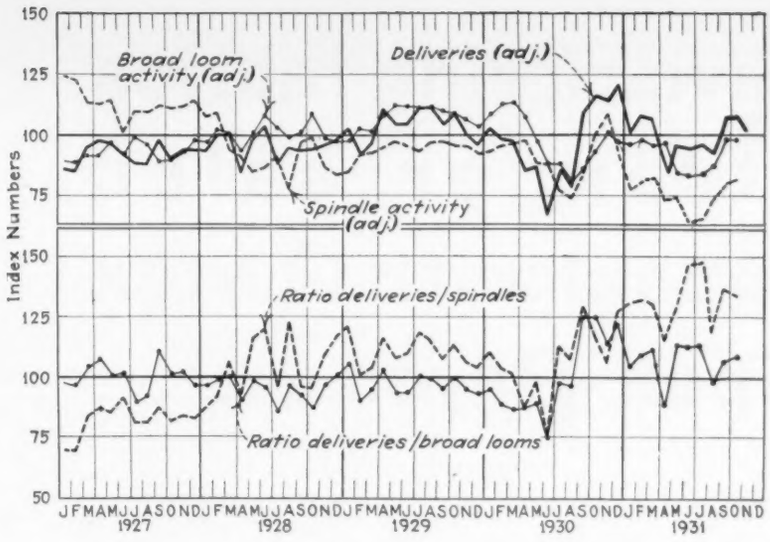
Broad loom activity (adj.)
Deliveries (adj.)
Spindle activity (adj.)
Ratio deliveries/spindles
Ratio deliveries/broad looms
Index Numbers
150
125
100
75
50
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1927
1928
1929
1930
1931

Fig. 1. INDICATED SILK CONSUMPTION

Deliveries—bales: Spindle Activity, Broad Loom Activity—per cent of normal machine hours operated. All three indexes adjusted for seasonal variation. Ratio of Deliveries to Spindles and Ratio of Deliveries to Broad Looms based on above indexes. Average of 1927-1929 = 100 for all indexes. Source: Silk Association of America

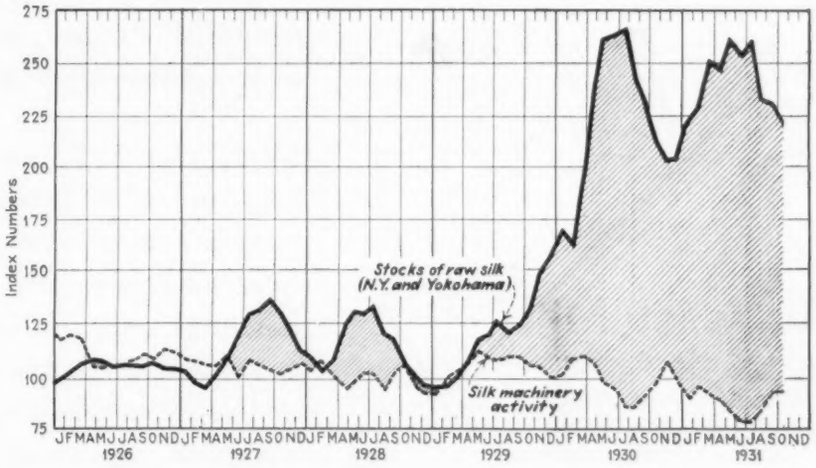
Stocks of raw silk (N.Y. and Yokohama)
Silk machinery activity
Index Numbers
275
250
225
200
175
150
125
100
75
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1926
1927
1928
1929
1930
1931

Fig. 2. RAW SILK STOCKS AND MACHINERY ACTIVITY

Stocks—N. Y. and Yokohama, adjusted for seasonal variation, three month moving average; N. Y. Stocks, Silk Association; Yokohama Stocks, H. L. Gwalter & Co. Machinery Activity—Composite of spindles and looms adjusted for seasonal variation, Silk Association. Average, 1923-1927 = 100 for both indexes.

Silk Textiles

There has probably been little change in the price of silk goods during the last month. Trade reports indicate that prices have been unsatisfactory, but relatively stable. The prices of silk goods were closely following the trend of raw silk prices, however, and now that raw silk prices have fallen to new low levels, goods prices are likely to feel the pressure for concessions. The new spring business has been much delayed, and although manufacturers are reported to be curtailing their output of broad silks it does not seem likely that the recent improvement in their replacement margins will be maintained. Demand conditions are too unsatisfactory.

Sales of silk goods at wholesale in New York during October were sharply lower, whether measured in terms of value or yardage. The dollar sales of silk goods suffered the sharpest decline from September to October for any similar period in recent years. Yardage sales were 19.2% below September, and 11.5% less than a year ago.

In comparison with the poor showing of silk sales, broad-loom activity held up fairly well during October; but a check in the rising trend of activity was clearly foreshadowed by the recessions in the sales indexes of the last few months. October machinery activity, especially broad-loom activity, appears to have been too large for the October sales level, and curtailment appeared to be advisable. Trade reports indicate that during November mills restricted their output considerably.

Stocks of silk goods at wholesale were 12.2% below October, 1930. They increased more than usual over September, however, and accordingly the decline from a year ago was the smallest with one exception in more than a year.

Market Briefs

Cotton: ***No general support but weakness is not overdone.***

Cotton Yarns: ***Sellers not pushing market; prices largely nominal.***

Cotton Goods: ***Marking time with hope of betterment after holidays.***

Wool: ***Little change with dealers expecting stability; medium wools in best position.***

Worsted Yarns: ***Dull market with attention centered on possible January revival.***

Woolen Goods: ***Active sampling of women's wear fabrics.***

Silk: ***Raw silk falls below $2.00 level.***

Silk Yarns: ***Spun yarn steady; thrown silk quiet.***

Silk Goods: ***Much price selling for liquidation purposes.***

Rayon: ***Rayon sought for crepes.***

Knit Goods: ***More mills to make mesh hosiery; winter underwear in late demand; swimsuit sales show usual holiday drop.***

Give Spring fabrics stronger sales appeal with Quitex Spun Rayon . . . .

As you look for a way to freshen up your Spring fabrics, to give them a new style slant that will step up sales, keep in mind Quitex Spun Rayon.

Remember that Quitex is comparatively new. That it is unlike any other yarn in the effects it produces in the finished fabric. It gives to the fabric a dull sheen, a clinging and graceful drape—in short, a distinct advantage over competitive fabrics at the point of sale.

Since the first announcement of Quitex Spun Rayon, each season has seen more and more fabrics styled with this novel yarn. And right here an impressive fact comes to light. Once a designer uses Quitex, once the mill executives see the effect of Quitex on the appearance and sales of the fabric, both designer and executives never overlook a chance to work Quitex into their fabrics. Today, for example, more mill men are asking for Quitex samples than ever before.

Before you decide on the Spring fabrics you'll feature, look over some Quitex samples. Write or telephone for samples.

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Edward H. Cook, Treas.
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Quitex Spun Rayon
by the spinners of
Quissett Cotton Yarns

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarns Still Mark Time

THERE is an absence of active demand for cotton yarns at this time. This however occasions no surprise among dealers who are accustomed to regard December as a dull month. In view of the fact that credits will certainly receive careful attention in light of annual statements, it is natural that special efforts are being made to keep down inventory by manufacturers.

The fact that mill's stocks of yarns are apparently at a low point seems to be indicated by the experience of several yarn houses in the matter of deliveries and specifications. While there have been some requests for delays in shipment of certain yarns, as for example heavyweight underwear yarns, a number of houses state they are well pleased with the manner in which deliveries are being maintained. One important house reported deliveries as even better than they have been previously in December, and in some instances specifications have called for sizeable quantities. One house states its December billings will exceed by 30% those for last December. While December, 1930, was hardly a criterion of good business, the difference in prices between now and then is such as to suggest a considerably greater poundage volume. Dealers are looking for improved conditions after the end of the year.

Yarn prices continue to seek new low levels following lack of any general demand and keen competition with a certain amount of dickering in the hopes of completing a sale. However, there is not enough business being done to fix prices upon a definite basis, although "chiseling" apparently has resulted in some prices which average dealers refuse to consider as representative. Cotton continues to show little marked change, which fact is regarded as a favorable indication toward stabilization. While many spinners are reported in need of business to keep their mills operating, dealers report a large number of plants which will be closed for one to two weeks over the holidays.

As stated previously, sales of yarns are almost at a minimum, so that prices are little more than nominal. Sales of 20s-2 warps are reported placed with spinners as low as 15½c., while 30s-2 warps have touched 19 to 19½c. Carded knitting yarns are reported sold as low as 13c. for 10s under certain conditions, but 13½c. is regarded as the average price, with 18s at 15½c. and 30s at 20 to 21c. Manufacturers are placing only small orders for immediate requirements at this time.

Combed yarns are also quiet with limited activity. Sales have been noted of yarns, including 16s to 30s single at prices averaging around 20½c. for 16s, with quotations continuing to follow closely the averages shown on page 66. Ply yarns are inactive with rather less pressure to sell at this time unless a real interest is shown. Prices continue to vary but there is not enough doing to show any established basis. Mercerized yarns continue without any special interest. Prices show little quotable change.

◆Cotton Is Steady In Quiet Market

WHILE there has been irregularity, the cotton market, on the whole, has shown a fairly steady tone within a few points either way of the 6.00 level for January contracts and around or slightly above 6½c. for July. This has resulted from a continued absence of southern offerings in any appreciable volume and a fairly firm technical position rather than from any particularly bullish construction of the week's news. The supply is known to be excessive, but so long as it is not pressed for sale it does not weigh on the market, while buying "on the price" is restricted by unsettled outside conditions as well as by an idea that advances might meet increased offerings of cotton between now and the end of the year. Meanwhile, the basis has continued steady to firm, although toward the end of the week, there were reports that the recent sustaining demand from the cooperatives and Japanese interests, particularly the latter, had tapered off, and that a little more cotton was offering.

The departure of Japan from the gold standard was naturally one of the chief news features of the week. This came following very heavy purchases of spot cotton in this country for Japanese account, and belief is that while yen was on a gold basis and therefore at the maximum of its buying power, Japan bought nearly if not all her season's requirements. The demand from that quarter with the yen depreciated in value, is expected to fall off, while it is thought that the embargo on gold shipments will react favorably on Japan's export trade in textiles. It should enable them once more to compete on advantageous terms with Manchester which has been booking a large business and regaining some of its Far Eastern trade since England went off the gold standard last September. Meanwhile Lancashire manufacturers are attempting to negotiate more favorable terms with operatives when the present wage agreement terminates at the end of this

(Continued on page 61)

◆Worsted Yarns In Seasonal Dullness

SEASONAL dullness continues to dominate the worsted yarn market. The trade hardly expected anything else. Yarn users at this time of year are interested in maintaining a low inventory, and it is expected that there is going to be a more strict scrutiny of inventories and statements than usual after the first of the year, as the matter of credits is certain to be paramount in the minds of spinners and yarn dealers.

The wool market is still maintaining a firm appearance, and while there is not the active trading to be found which prevailed recently, there appears to be a quiet confidence in the wool market as an important stabilizing factor for the yarn market.

There is hope that there is going to be a more encouraging development in business after the new year gets under way. As an indication of this there are several yarn dealers who report signs of a quiet undercurrent of activity in the men's wear trade.

Sales of yarns for men's wear are practically nil, with the exception of occasional small orders to fill in and a certain amount of sampling. Several spinners state they have a wider variety of samples out than for many seasons. On the other hand many factors expect a smaller showing of styles following the unusually large number of lines shown last season. However, there is a keen desire to find something unusual or different in character, with price figuring largely. This element is responsible for the development of various combinations and blending of grades in order to secure the desired effect at an advantageous price. The dress goods situation is somewhat in the same position with the same efforts being made for variety of unusual effects at an attractive cost. With few sales being made at this time, prices have had little chance to show any definite basis. For 2-30s Bradford spun 64s, $1.30 is an average price, with French spun yarns at $1.32½.

Conditions in the knitting yarn market continue quiet with sales chiefly confined to small lots to fill in. Manufacturers are bending every effort to reduce inventories to a minimum. Business on sweaters and sport coats has been light and scattered. Sample lines are being developed, with a broad interest in a wide variety of yarns. The chief problem seems to be to find an unusual yarn at a price, so that here again, special grades and blends are reported. Interest in a cheaper zephyr yarn is also reported to permit manufacturers to offer as good a quality as possible at a low cost. Here again the absence of any

Football is a glorious game for college students

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Chardonize Yarn

If any "footballed" yarn, underwear or hosiery has ever paid satisfactory profits either to the manufacturer or the yarn producer we have not heard about it. That is why Chardonize has never appeared on the gridiron . . . and never will! To keep Chardonize off the football field we first made it unique. We gave it smoother running qualities. We developed and utilized a patented, unequalled dull-lustre process. We made Chardonize superior in every important way in the popular-price field.

But we did not stop there. Ever since the dominance of Chardonize became established in the trade we have made every effort to protect its enviable position. We have protected in every ethical way the interests of manufacturers who have taken the Chardonize road to profits. We will continue to do so. This yarn *can't* be kicked around!

If you believe with us that football is a profitless game for the hosiery and underwear trade . . . right now is the time to change to Chardonize. You will have the combined help of a protected, nationally accepted name and a smoother, more satisfactory knitting yarn.

The Tubize Chatillon Corporation makes a yarn for every purpose—by the viscose, nitrocellulose or acetate process.

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IS A TUBIZE PRODUCT

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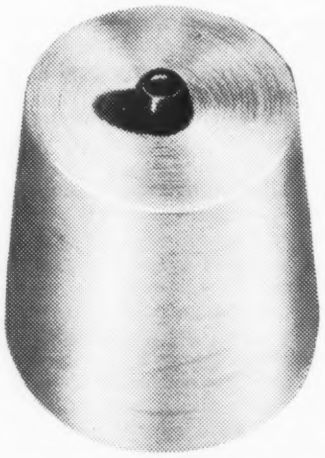


TUBIZE CHATILLON CORPORATION · 2 PARK AVENUE, NEW YORK · PLANTS—ROME, GA., HOPEWELL, VA.

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

volume of business makes it difficult to state prices with any degree of accuracy. However average quotations from leading spinners show 2-18s high quarter blood at 75c., with single 18s slub-dyed, 50s quality, at around 92½c. Bathing suit manufacturers are said to have found scattered business after sending out their representatives rather later than usual.

◆Stable Prices Maintained by Wool

THE wool situation is without material change from a week ago. The demand for strictly fine wools continues slow. French combing varieties of fine territories sell more freely to the relative neglect of choice fine territories and fleeces. Texas 12-months wool, lower priced than the territories, has of late attracted attention and considerable selling has taken place. Foreign markets throughout the week were without appreciable change affecting the domestic wool situation.

Mill interest in three-eighths-blood and quarter-blood continues. The bulk of the sales has been fully up to last week's level, with mills taking quarter-blood at 42c. and three-eighths-blood at 49 . clean basis. Fleece combing wools, especially the finer qualities, are sluglish but any attempt to secure these wools at lower prices is unsuccessful. Holders of delaine are waiting the time when worsted manufacturers will feel the need for additional supplies of this strictly fine long stapled wool.

In view of the subnormal supply of medium wools there is developing a tendency toward speculative purchasing of these grades as it seems likely that when present supply is exhausted manufacturers will have either to buy higher-priced foreign wools or switch operations to the finer wools of which there are substantial though not excessive supplies.

New business in wool tops is arriving slowly. Mills are calling for tops chiefly to cover duplicate orders on spring goods. Medium tops for knitting yarns have been a little more active, but there has been no call for fine tops in volume. Stocks are quite substantial but not fully up to the high side of normal supplies, in some cases. The abnormally low price placed on fine noils is a severe handicap to profitable business. With fine wool at 58c., fine top at 80c. and fine noil at 33c., the wool is 52% of 1926 basis, the top 55% and the noil 40%.

Consumption of domestic wool in 1931 will be about 28% larger than the preceding five-year average and consumption of all foreign wools 26% smaller than the average during that period.

◆Cheap Substitutes Look More Promising

THE old rag market is a little more cheerful on a slightly larger turnover at firmer prices. Cheap mixed rags have now either been withdrawn or have been bought up. The several graded white rags show additional activity. Despite desire for small year-end inventories, there nevertheless seems to be more of a speculative interest in the cheaper sorts of colored rags. It would not be surprising if the several colored serges and worsteds and the cheap merinos encountered much better buying in the new year.

Demand for worsted wastes continues spotty but the undertone of the market is fair. Dealers still find it difficult to bring about any advances in prices. Supplies of fine thread waste whether domestic or foreign are small and when anything like a normal consumption of this material becomes possible better prices will be seen. Values on good wool wastes are well ahead of the prices asked by sellers. Dealers are picking up cheap materials in both white and colored worsted wastes.

The noil market is not particularly active but prices are firming up and prospects for better business seem more promising. Mills as they get business come into the market for the materials they require and usually make little or no resistance to the price made by dealers. Outside the business in white noils little else is occurring. Supplies of colored noils are small and the call is sluggish. The high priced specialty noils, cashmere and camelhair, are quiet. Choice fine noils show a stronger tendency which is likely to materialize around the turn of the year.

◆Crepe Weavers Buying Rayon Yarn

OCCASIONAL spot buying mostly by fabric manufacturers who are increasing output of rayon flat crepes, has varied the normal holiday lull now settling over the rayon yarn market. There is little real demand from any outlet, as mills generally are determined to end the year with low yarn stocks and will not begin spring production until well into January. Yarn producers approach the year end in confident mood. Price tone is steady; there is less hesitancy than last year-end, the dominant feeling among manufacturers being that levels will remain as is for some time.

Production of yarn is being watched carefully; some companies are understood to be down to 75%, and the total carry-over will be in happy contrast to the approximately 25,000,000 lb. with which the industry entered the year now closing. Mills have little or no stocks of synthetic yarn on hand, and are expected to begin active contracting early next month.

◆Thrown Yarns Quiet Pending Stability

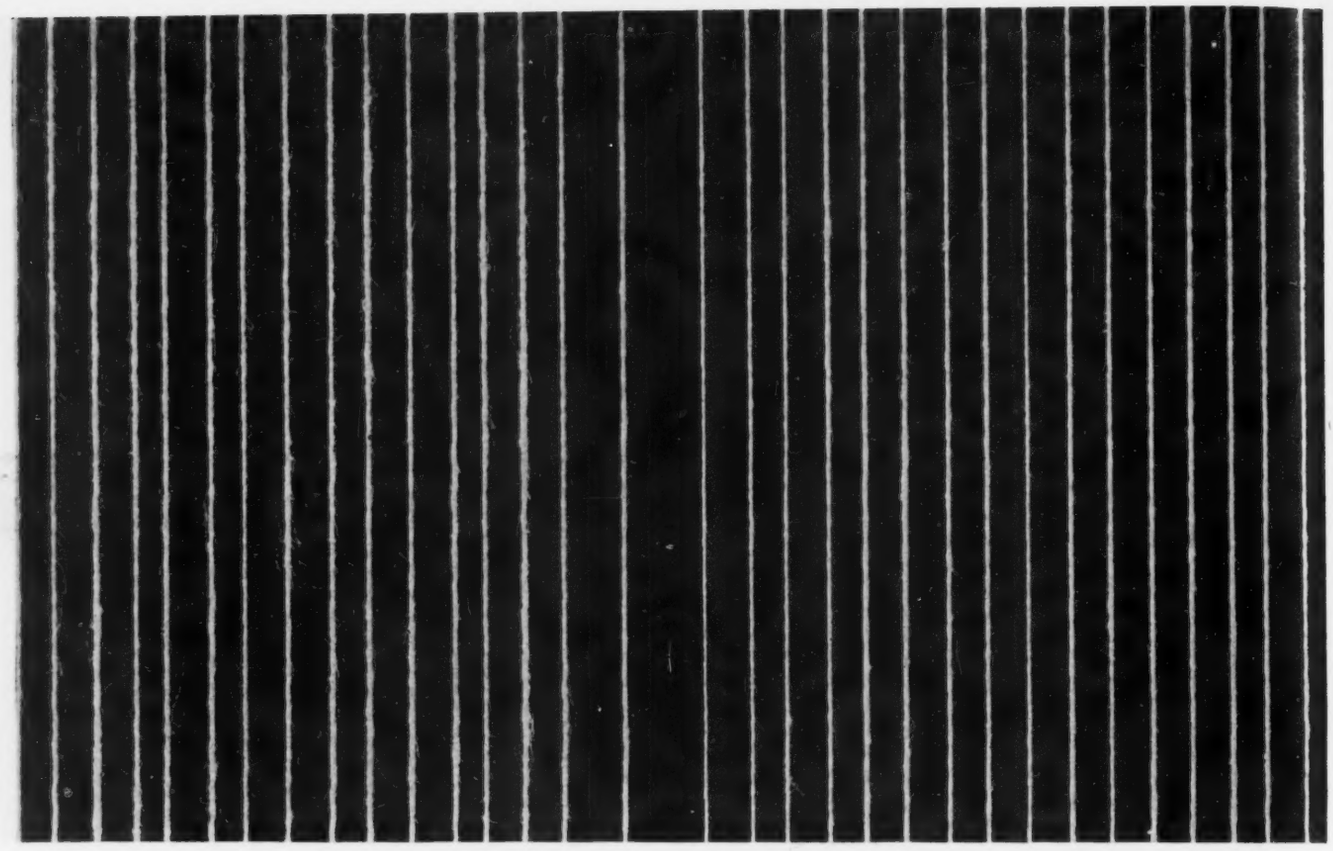
THE dramatic drop in primary market levels and the uncertainty following Japan's decision to abandon the gold standard has made manufacturers very hesitant about buying thrown silk yarn. Throwsters did not do any spirited business this week, and they did not expect much. Prices are not being quoted, each order bringing a specific declaration. Thrown yarn factors in New York looked for raw silk prices to decline further which would bring a downward revision in yarns. They do not expect any business of real size until after the holidays, being hopeful however that January will bring some stability in prices.

The demand for spun silk noted among manufacturers of knitted underwear slackened this week, but there was still a fair quantity of business available. Broadsilk mills continue very hesitant as regards placing their spring orders for spun silk; the total of advance business received by spinners to date is well below normal. Prices are steady, due to low stocks but the outlook is uncertain.

◆Japan's Gold Ban Unsettles Silk

RAW silk presented a disorganized and speculative picture at the opening of the week, following Japan's decision to abandon the gold standard, and as the week progressed it became evident that there would be no quick return of confidence. Importers found demand among normal outlets to be very hesitant despite the unprecedented low levels. Official quotations were unreliable with many firms and prices were fixed order by order.

The Japanese silk market is much cheered by the gold decision and looks for a sharp upturn in export prices, which view, however, is not shared in New York. Buying tone here is not conducive to any decided strengthening as the approach of the year-end makes manufacturers hesitant about covering ahead. Those of a gambling inclination have been active and much of the buying done this week was speculative. Importers look for a somewhat more settled condition beginning Monday but real stability is not expected to develop before the new year.



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FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆Cottons Firmer But Without Support

EVEN though production of carded cotton cloths in November was at a higher weekly rate than any month since April, 1930, stocks on hand at the end of the month gained only 6.9%. The weekly rate was 57,861,000 yd., which was 1.9 times the rate of production during October. Unfilled orders at the close of November showed an increase of 3%. The figures only slightly disclose the excess production of print cloths which resulted in the visit of buyers to mill centers of the South and further in the extension of the curtailment movement.

At mid-week the print cloth market had a firm appearance despite the lack of broad business. Efforts to effect a curtailment of 25% in print cloth mills from the production rate of November, has had a helpful effect though there has been insufficient business to stir up a rising market. Then too there is the raw material situation to reckon with, and a number of well informed factors are still bearish on cotton. Accumulation of cotton by Governmental agencies does not altogether alleviate the weight of these supplies on the market, and the fact that Japan has already bought considerable cotton in advance of abandonment of the gold standard may mean that Japan will not again be a strong buyer for some time.

Mills have been reported as turning down bids for gray goods at $\frac{1}{8}$c. under the market, and, although buyers are taking a typical year-end attitude of indifference, the tone is considerably better than it was at the close of November. Sales of 64x60s were made at $3\frac{3}{4}$c. and of 4-yard 80 squares at 5c. Sales of sheetings were light but at full market prices. Broadcloths were not active but sales of 4.10 yard 100x60s were reported at $5\frac{1}{2}$c., though the product of some mills moved for somewhat less. Fine and fancy goods including rayon materials were quiet.

In general distributors of cotton fabrics have been preparing for the year-end in orderly fashion. Clearances have been made in wholesale circles where necessary without affecting the market and retailers have been moving a fair amount of domestic goods along with the Christmas trade. Many cotton novelties have been prepared for the holiday trade and although small in themselves they nevertheless consume some cotton and have proved salable.

Sellers are again scanning credits with particular care and are awaiting the year-end statements with more than the usual interest. Even though mills have been selling goods at a loss to converters it does not mean that these factors have been able to get much profit out of their operations. Competition has held prices down and lack of stability has made many of them nervous about carrying stock for any length of time.

Attention in most quarters is now centered on the trend after the turn of the year. Best authorities expect that there will be a seasonal pick-up in February and March, but admit that it may not come up to previous records or even to market expectations. As a general thing it seems best to lay a program well into the new year on a strictly curtailed basis and to figure prices on considerably reduced production schedules.

◆Active Sampling of Women's Wool Goods

THE confident tone which the wool goods market assumed thanks to the cold weather at the beginning of the month weakened quickly when the weather grew warm again, and the current week has seen little real buying at any end. Manufacturers of women's wear fabrics are encouraged by the active sampling done during the last ten days, and the mills look for some spirited buying next month. Prices are steady and inquiries are increasing. There is plenty of "price" demand for men's worsteds, mostly at the low levels, and for spot delivery; some mills are anxious to realize on stocks and are cutting drastically to effect turnover. At the quality end, orders are lighter but prices are steady.

Worsted demand leans more to fancies and it seems likely that these lines will come back, at least partially, to their normal dominant position, in spring buying. Worsted stocks in mills are moderate. There is a larger supply of overcoat fabrics available, due to the poor fall business done at that end, and prices of overcoatings are shaky.

Inventory problems and year-end financial statements are a major consideration among wool goods mills at present. There is much discussion as to the credit policy to be adopted for 1932, since it is recognized that the coming year will be a particularly difficult one for many customers.

◆Good Retail Call For Broadsilk Prints

BROADSILKS are entering the normal Christmas lull and mills do not look for any real movement of yardage until the second week of January. Market tone is generally steady, though there has been considerable unloading of low-level prints at sacrifice to liquidate for inventory purposes. Retail call for prints has been very satisfactory, fabric houses report, and they look for further good business when buying is resumed in January. Demand by piece goods buyers is mostly for medium and small all-over designs, with florals predominating. Fabrics featuring tiny blossom and fruit effects have moved steadily but not in great volume.

Prices of higher quality prints are steady and year-end stocks at this end appear to be light. Mills specializing in silk-and-wool dress fabrics of rough finish, consider this line to be a promising number for spring; the general trend to rough finish for both day and evening wear has accentuated buyer interest in the silk-and-wool goods. Pastels are favored in this line.

Satisfactory velvet business was enjoyed by numerous leading houses during the fall months, and prices afforded a fair profit margin. The pile stocks have practically all been cleared, leaving a minimum carry-over.

▸Shirting Fabrics Group Accepts Trade Practice Rules

The shirting fabrics industry has accepted trade practice conference rules adopted at its meeting of Dec. 10, 1927, in New York, following changes recently suggested by the Federal Trade Commission.

Those rules approved by the commission and designated Group I, relate to false branding, price discrimination, and secret payment of rebates. A Group II rule accepted by the commission as an expression of the trade covers the practice of usurping designs, styles, or patterns originated by a competitor.

The industry has appended a statement of its view on a former rule regarding f.o.b. point of origin.

▸Freight Tariffs Now Favor Cotton Baling Materials

The Cotton-Textile Institute has been advised by the Southern Freight Association that its recent revisions in freight tariffs in favor of cotton baling materials for cotton piece goods shipments in southern territory have now been extended to apply as well to New England and the Trunk Lines' Association territory.

These revisions allow bales and rolls of cotton yarn and cotton piece goods for freight shipments to be covered with 8-oz. cotton cloth, or with $3\frac{1}{2}$ to $4\frac{1}{2}$-oz. cotton cloth when the roll is protected by an inner wrap of paper. The use of cotton wrapping for these purposes hitherto had not been permitted.

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KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Bathing-Suit 1932 Outlook Uncertain

BATHING-SUIT orders have shown the usual decline that immediately precedes Christmas. Mills will end the year with much less business on the books than this time last year, and they are relying on January to bring a sharp improvement in demand. Numerically, there has been a good quantity of orders, but volume is well below normal. Neither jobbers nor retailers are willing to cover heavily for the coming season; for the most part, contracts are light. Several mills specializing in other knitwear lines have announced their intention of entering the swimsuit business this season, and caution in building up stock is advised. While late buying may be spirited and could move accumulated stock to some degree, the additional firms in the market, plus the backward season suggest the possibility of some pressure to clear in spring.

Indeed, swimsuit prices have been a bit uncertain since the openings. The firm levels and confident attitude which marked the trading last season has been noticeably absent, and substantial stocks in late spring could conceivably cause a serious break in prices.

Heavyweight sweaters are pretty well cleared for the season. Some last-minute Christmas fill-in orders were received this week but there is little future interest. Spring sweaters are picking up and activity is reported, the call being chiefly for crickets, baby shakers and pullovers. Plains are more popular than fancies; prices generally are firm.

◆Heavy Carry-Over In Hosiery Stocks

ATTENTION of hosiery mills during the week has been focused mainly on the unprecedented low levels reached in the primary market. The warning issued by the National Hosiery & Underwear Association, against future buying in the belief that Japan might change governments bringing an abandonment of the gold standard, has been confirmed very completely by developments. The fall of the current cabinet precipitating the gold embargo has weakened the Japanese currency and has weakened silk prices further. Hosiery mills now are extremely cautious on buying, as Christmas sales fell so far below expectations that many companies will end the year with unhealthily large stocks. Indications are production will be light for some weeks after the year turns; mesh and lace-tops probably will be an exception as market confidence on the spring prospects for these fancies is very strong.

One cannot too emphatically stress the need of conservatism in producing mesh hosiery. Each day brings reports of more mills planning extensive operations in these lines, and it is questionable even allowing a good consumer mesh call, whether the market will be able to assimilate the stocks scheduled for output during the next few months.

Some mesh line prices already have been reduced and keen competition during the first quarter of 1932 seems almost inevitable. Producers of staples do not expect that the growing call for mesh lines will make any particular dent in their business, and they look for good buying after the holidays. A fair amount of January orders for both staple full-fashioned and novelties has been placed, but bookings are well below normal.

Half-hose continues soft, with active demand whenever mills show willingness to make concessions. There is a steady movement of men's staples in the upper brackets, but the bulk of pre-holiday buying was in the lines retailing at 25 to 50c.

◆Winter Underwear Still In Demand

HEAVYWEIGHT underwear is still in demand, and orders probably will continue coming in slowly through January. Distributors carry only minimum stocks, depending on quick delivery of duplicates to meet current needs. Mills made a fair profit on heavyweights during recent months, but the year as a whole has not been good, due to the big drop in total volume. The consistent strength shown in prices as a result of curtailment of output helped the financial showing of the mills.

There is speculation as to whether next year will see much growth in the trend of mills making winterweights to turn to other lines such as bathing-suits. The consumer tendency away from heavyweights was particularly evident this year, but the number of firms making fleece and ribbed underwear is shrinking so steadily that those still in the business believe there will be enough business to go around next year. According to current reports the trend to lightweights has hit the manufacturers of winter woolens more than it affected the fleece and ribbed lines.

Lightweight underwear is in fair call, orders being small for the most part. Buyers of these lines are holding off on commitments until after they have taken stock. Prices of all lines are steady, and the lightweight outlook for January is regarded as promising.

Men's rayon underwear showed moderate activity this week; buyers seem resigned to the new prices and less hesitant about placing business.

◆Raw Cotton Reports

(Continued from page 55)

month, but any suggestion of lower rates or increased hours, is meeting with strong opposition from the unions.

The action of Japan in declaring the embargo of exports of gold has been followed by rumors that Holland would probably take similar measures and it was just possible that this talk of abandoning the gold standard is tending to revive the late October expectation of general inflation in commodity values. This may be partly responsible for the undercurrent of bullish sentiment which is still evident in commission house comment here, referring, of course, to the probable trend of values in the long run. Aside from that, however, there is the feeling that cotton cannot continue to sell below costs of production and there is almost certain to be a reduction in next year's crop. The feeling is, perhaps, that during the spring there will be reports of curtailment in acreage, coincidentally with more marked indications of improving business and the development of a more settled situation in the security markets, as well as a clearing up of some of the international uncertainties.

There seems no serious thought that there will be uniform control of acreage by State legislation. The movement has met too much opposition to suggest its success, but it is believed that southern bankers will use all their influence when loaning money either to hold present crop cotton or for the production of the coming crop to secure an adequate reduction in the area planted. This should be reflected by a substantial curtailment, while there are two other preliminary factors which point to a reduction in next year's outturn. They are first of all, the exhausted condition of the soil following this year's production of about 200 lb. per acre, and the possibility of increased boll weevil damage next season.

◆Cotton Waste Prices Easier

COTTON waste prices were somewhat easier this week, quotations moving off about ¼c. Interest in peeler comber continues to feature the waste market, but as supplies now appear more adequate, and since there is greater disposition on the part of spinners and other users to withhold further buying until after stock-taking, the volume of business actually transacted this week was less than in the two previous weeks.

Outside of scattered buying of peeler and upland strips, interest in other cotton wastes is practically nil, and this situation is likely to continue until after the turn of the year.

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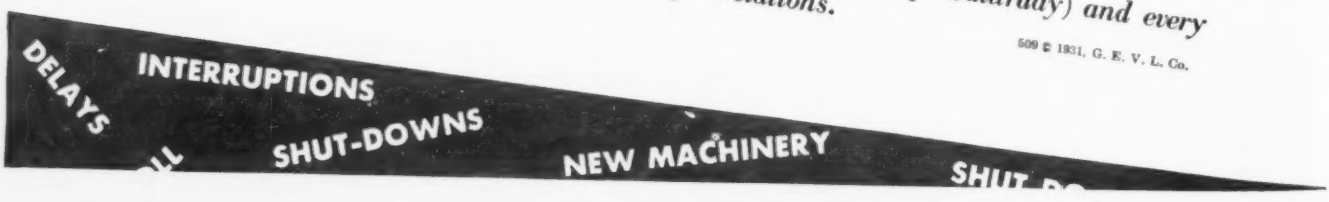

TEXTILE FINANCIAL NEWS

TEXTILE WORLD ANALYST

◆Appleton Co. Reports Profit

DESPITE depreciation charges of $149,465 and a steadily declining cotton and cotton goods market, Appleton Co., Anderson, S. C., and Lowell, Mass., closed the year ended Oct. 31, 1931, with a net profit of $127,976, as compared with a net loss in the previous year of $119,852, and substantial deficits in three of the four preceding years. The South Carolina plant, where all manufacturing is done, experienced a net profit after charges of $153,209, although the Lowell mill, which today is wholly a renting property, suffered a loss of $24,323. A year ago the Lowell property lost $66,367.

At the annual meeting of the stockholders all officers and directors, with the exception of Charles Runnels, who desired to retire from the board, were reelected. C. E. Cooke, secretary, and a director of Saco-Lowell Shops, was elected to the directorate, succeeding Mr. Runnels.

The balance sheet as of the fiscal year just ended shows a material improvement in the financial condition of the company. Current assets totaled $1,229,636 and current liabilities $149,953, a ratio of 8.2. The difference, or working capital, of $1,079,683, compares with net quick a year ago of $922,281, when the ratio of current assets to current liabilities was 2.6

The notes payable account was reduced from $500,000 to $100,000. The balance sheet surplus at the end of the year amounted to $2,631,806, and inventory $484,455.

Hear Manville-Jenckes Claims

William B. Greenough, an attorney, has been appointed to act as special master by the Providence (R. I.) Superior Court to hear and pass upon the disputed claims, said to amount to several million dollars, against the Manville-Jenckes Co. of Pawtucket, now in receivership. This action was taken at the request of the receivers to give all creditors full opportunity to have their claims passed upon.

City Mfg. Dividend

Another dividend in liquidation will be paid to stockholders of the City Mfg. Co., New Bedford, Mass., directors authorizing a disbursement of $10 per share, payable Jan. 1 to stock of record Dec. 11. The original capitalization of the corporation was $750,000. This was reduced 50% in December, 1928 by the payment of $50 per share, and 12 months later the capital was reduced to $187,500 by payment of $25 per share. Since then further dividends totaling $50 per share have been paid, so that including the current dividend of $10 a total of $135 per share will have been paid to stockholders.

United Merchants Renew Notes

United Merchants & Manufacturers, Inc., has arranged for a renewal of practically all of its $4,500,000 one-year collateral trust, 6% notes, due Dec. 15, 1931. Under the arrangement notes of the new issue will mature each year from Dec. 15, 1932 to Dec. 15, 1936. Net earnings of the company for the first ten months of 1931 were said to be more than four times the interest requirements on these notes.

May Hosiery Mills Profit

May Hosiery Mills, Inc., Burlington, N. C., reports a net profit of $212,364 for the fiscal year ending Aug. 31, 1931, after deduction of depreciation, State and federal taxes and interest. This is equivalent to 53c. per share on class A stock, based on 80,000 shares outstanding. In the previous year, the company reported a net profit of $260,178, equal to $1.12 per share of class A stock. Net income for the year ending Aug. 31, 1929, was $250,279, or 99c. a share and in the year before that net income amounted to $227,669, or 71c. a share.

National Fabric Cuts Capital

Stockholders of the National Fabric & Finishing Co., Boston, Mass., have voted to reduce capitalization $512,000 by cancelling 5,120 preferred shares of $100 par. The new capitalization will consist of 1,541 preferred and 30,000 common shares.

Financial Brevities

Stockholders of the Grinnell Mfg. Corp., New Bedford, Mass., have received $10 per share, payable to stock of record Nov. 30, the distribution being made possible by sale of goods and cash in hand not needed for conduct of the business. The checks were put in the mail Dec. 9, with an accompanying note from the treasurer, Joseph W. Webster, that the payment is ordered by the directors, pursuant to action taken at the meeting June 16.

A dividend of 2% will shortly be paid creditors of the bankrupt Globe Mfg. Co., Gaffney, S. C., according to official announcement. This brings total payments to approximately 12½% on claims approximating $500,000.

A first dividend of 3% was declared to general creditors of the Fabrics Finishing Corp., Newark, N. J., under an order signed Dec. 15 by Federal Judge Guy L. Fake. The amount of the dividend is $10,682 paid on approved claims of $356,097.

Sidney Blumenthal & Co., Inc., has declared a regular dividend of $1.75 per share on the preferred stock for the quarter ending Dec. 31, 1931, payable Jan. 2, 1932, to stock of record Dec. 15, 1931.

Boston Stock Auctions

The following sales of textile shares were made at auction, Dec. 9, 1931:

Shrs.	Mill	Par	Price	Ch'ge
2	Ludlow	...	64	—1
1	Gosnold, com	100	12	—
5	Gosnold, pfd	100	37	—
80	Naumkeag	100	50	—
10	Hamilton Woolen	100	45	—10
10	American Mfg., com	100	10	—
35	Merrimack Hat, com	100	18	—
117	West Point	100	37½	—
	$8,801 U. S Worsted S. F. Income Certificates; $2,500 U. S. Worsted 6s; 131 80/100 U. S. Worsted, com.; 32 U. S. Worsted 1st pfd.; 15½ U. S. Worsted 2nd pfd		50 lot	
260	Total			

▶New England Textile Stocks

Quotations at "Public Sale" are based on last sale at Boston Public Auctions and Boston Stock Exchange. Bid and Asked prices are latest quotations of dealers.

	Sale	Bid	Asked
Am. Mfg. Co., pfd	50	48	..
Amoskeag	4	..	..
Arlington	23	17	20
Associated Textile	10	..	10
Bates	60	41	..
Berkshire Associates, com	12⅜	1½	..
Berkshire Associates, pfd	40⅛	11	15
Bigelow-Sanford, com	16	..	..
Boott Mills	120½	40	60
Edwards	80½	42	46
Esmond, pfd	98	95	99
Farr Alpaca	27	13	17
Hamilton Woolen	45	45	50
Hill	7	4	6
Indian Orchard	10	..	10
Ludlow	64	59	64
Merrimack, com	35	5	10
Nashua, com	7½	3	6
Nashua, pfd	20	20	25
Naumkeag	50	48	51
Newmarket	16½	7	..
Otis	45	40	43
Pacific	8½	..	..
Pepperell	42½	30	33
Plymouth Cordage	56	54	..
York	8⅛	6	..

▶Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange for the week ended Dec. 15.:

	High	Low	Last Sale	Net Ch'ge
Adams Millis	26½	24½	24½	—3
American Woolen	3⅞	3⅜	3⅜	—½
American Woolen, pfd	21½	16	16¼	—4¼
Belding-Heminway	3½	3½	3½	—¼
*Blumenthal	4½	4½	4½	—1½
Botany Mills, A	⅛	⅛	⅛	.....
Cannon Mills	19½	18½	19	+⅜
Century Ribbon	5	4½	4½	—1
Collins & Aikman	8	7½	7½	—½
Consolidated Textile	⅛	⅛	⅛	.....
*Courtalds, Ltd	5⅛	5⅛	5⅛	—1½
Duplan Silk	10	10	10	.....
Durham Hosiery, pfd	21	21	21	.....
Gotham Hosiery	8½	6½	6½	—2½
Industrial Rayon	26½	24	24	—2½
Kayser, Julius	8	7½	7½	—½
Kendall, pfd	31½	25	25	—6
Mallison	1	½	½	—½
*May Hosiery, pfd	19	19	19	—1
Mohawk Carpet	9½	8½	8½	.....
Munsingwear	14½	14	14	—½
Pacific Mills	9	8	8	—1
*Pepperell	33	32	32	—3
Phoenix Hosiery	3½	3½	3½	—2½
*Propper-McCallum	1½	1½	1½	.....
Real Silk Hosiery	2⅜	1⅝	2⅛	—⅛
*Tubize	2½	2	2½	—¼
United Piece Dye Works	10¾	9¾	10¾	—2¼

*Listed on Curb.

Throwsters Plan to Form Research Institute

WITH the aim of applying organized effort to solve the problems now confronting the thrown silk industry, mills totaling more than 1,000,000 spinning spindles estimated to be at least 50% of all the spinning spindles in the country, have completed plans for the formation of an organization to be known as the Throwsters Research Institute. A steering committee which met at the Penn-Stroud Hotel, Stroudsburg, Pa., Saturday, Dec. 12, definitely settled upon the identity and scope of the new organization, and this committee will continue in office until the board of directors and officers are elected, which is expected to take place at a meeting early in January.

Among the main questions to be given immediate consideration by the institute will be: the possibility of instituting a 5-day week, with the aim of balancing output with consumption; legislative cooperation, cost-accounting, and a bureau of claims and trade abuses.

Details were disclosed Wednesday by the steering committee in a statement. This committee comprises: Arthur G. Schautz, Grove Silk Co., J. D. Dunlop, Jno. Dunlop's Sons, Inc., R. E. Tirrell, Tirrell Bros. Silk Corp., Charles Raine, Frisbie Throwing Co., Carlos Baer, Baer Co., John Salandi, Jr., Vulcan Silk Co., Dean Hill, Klots Throwing Co., Albert J. Pfeiffer, Pfeiffer Silk Corp., Sidney Bliss, Bliss Silk Throwing Co., and Henry Tynan, Tynan Throwing Co.

The organization plans to appoint a legislative committee to secure the assistance of the Senators and Congressman from the silk throwing States, and line up their assistance in working out this phase. A publicity campaign to point out the necessity of shorter operating schedules, and the need for better prices also is projected.

▸ Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Dec. 12, based upon data compiled by Dept. of Agriculture, follow:

	Week Ended Dec. 12	Total to Date 1931	Total to Date 1930
Domestic	2,102,000	252,484,000	243,595,000
Foreign	537,000	37,669,000	55,622,000
Total	2,639,000	290,153,000	299,217,000
IMPORTS AT PRINCIPAL PORTS			
Boston	537,000	37,669,000	55,622,000
Philadelphia	217,000	49,391,000	42,863,000
New York	2,780,000	51,960,000	43,056,000
Total	3,534,000	139,020,000	141,541,000

▸ Dyeing Prices Advance

Following a general advance of 10 to 15% in textile dyeing prices by the smaller dye firms, customers of the principal companies including United Piece Dye Works and Textile Dyeing Co. of America, were notified last Monday that existing quotations on all qualities of dyed and weighted goods were withdrawn, which is taken as indicating an increase in prices.

▸ Cotton Statistics Show Fair November Position

Statistical reports of production, shipments and sales of carded cotton cloths during the month of November, 1931, were made public last Monday by the Association of Cotton Textile Merchants of New York. The figures cover a period of four weeks and show a fair position considering the trend of business during that period.

Production during November amounted to 231,446,000 yd., or at the rate of 57,861,000 yd. per week. This was 1.9% more than the rate of production during the month of October.

Sales during November were 224,207,000 yd., equivalent to 96.9% of production. Shipments during the month amounted to 213,889,000 yd., equivalent to 92.4% of production.

Stocks on hand at the end of the month amounted to 273,390,000 yd., representing an increase of 6.9% during the month. Unfilled orders on Nov. 30, 1931, were 354,957,000 yd., representing an increase of 3% during the month.

Both sales and shipments during November, 1931, were greater than in November, 1930—sales being 22.5% more and shipments 6.6% more.

Textile Mill Votes Bonus

Charlotteville (Va.) Woolen Mills, have voted a bonus of 5% of salary to all employees at the plant, with the exception of president.

▸ Non-Union Full-Fashioned Manufacturers Organize

Organization has been completed of the Association of Manufacturers of Full Fashioned Hosiery, Inc., with the election of the following officers: William Meyer, Apex Hosiery Company, Philadelphia, president; Harry A. Brownhill, Brownhill & Kramer, Inc., Philadelphia, vice-president; Clarence V. Williams, Federal Knitting Mills, Philadelphia, treasurer. As previously announced in these columns, Harry E. Keller is secretary and general manager. Headquarters of the association are located in the Morris Building, 1415 Chestnut Street, Philadelphia.

The members of this organization include about 60 mills in Philadelphia and adjacent territory, and further accessions are anticipated now that the organization has been completed and operating plans definitely outlined. The object of the association is to protect the interests of non-union manufacturers of full-fashioned hosiery, and to aid effectively in the solution of those problems confronting non-union manufacturers in that industry. It is further planned to work steadily and effectively for stabilization of the trade, and to correct those evils now existing whereby producers are now in many instances operating at a loss.

▸ Plans Crystallizing for Next Southern Textile Exposition

The allotment of exhibition space for the tenth Southern Textile Exposition, which will open at Greenville, S. C., ten months from last Thursday, is nearly completed. So many reservations have been made it will be necessary to erect a temporary annex, as in the last two expositions. Land adjoining Textile Hall has been leased for the purpose. By this arrangement the entire ground floor is tied in as one building.

Due to the exhibition of spinning machinery and to the enlarged requirements of other manufacturers, some changes in the diagram of the second floor have been made. It was stated at the office of Textile Hall that a complete list of exhibitors would be announced in a few weeks.

The program for "Textile Week" will include a number of interesting features, chief among which will be the autumn convention of the Southern Textile Association. Other meetings will also be held. For the comfort and convenience of exhibitors and for entertainment of visitors the management is making more extensive plans than ever before. The selection of the exposition personnel has been made. The manager will be William G. Sirrine, president of the corporation, with Bertha M. Green, secretary, assisting.

▸ G. A. Sloan Heads Textile Arbitration Council

George A. Sloan, president of the Cotton-Textile Institute, was elected chairman of the General Arbitration Council of the Textile Industry at a meeting of the Council membership held at its headquarters, 320 Broadway, New York, Dec. 15. Mr. Sloan succeeds Walker D. Hines, the first chairman and the moving spirit in the formation of this organization, whose resignation was accepted with regret.

Fred'k A. Colt, secretary, made a report of the current activities of the Council, giving the details of interesting arbitration proceedings which have been held under its auspices and which resulted in unanimous awards by the arbitrators, usually three in number. Mr. Colt referred to one case which was held by order of the court under an arbitration clause in the sales contract where the counsel for the losing party unsuccessfully attempted to have the award vacated. Reference was also made to other cases where the transcript of the proceedings was care-

fully examined by the attorneys for the losing party but in none of these cases has any attempt been made to vacate the award. Ninety per cent of the cases so far heard have resulted in a definite allowance or rejection of the claim submitted. In no such cases did the award constitute a so-called compromise decision.

▸ Mills Plan Extended Shut Downs for Holidays

Among the mills which are planning to curtail December production by closing over the coming holidays are noted the following:

Anderson (S. C.) Cotton Mills, all of Christmas week.
Dixie Mercerizing Co., Chattanooga, Tenn., week beginning Dec. 21 and perhaps several days in addition.
Tuscarora Cotton Mill, Mt. Pleasant, N. C., from Dec. 19 to end of month.
Holt-Williamson Mfg. Co., Fayetteville, N. C., from Dec. 23 to Jan. 4.
Opp Cotton Mills and the Micolas Cotton Mills, Opp, Ala., two-week holiday beginning Dec. 21.
Rock Hill (S. C.) Printing & Finishing Co., from Dec. 24 until Dec. 28.
Aragon plant of the Aragon-Baldwin Cotton Mills, Inc., Rock Hill, S. C., from Dec. 24 until Dec. 28.
Adams-Millis Corp., High Point, N. C., from Dec. 23 to Dec. 30.
Ivey Weavers, Inc., Hickory, N. C., from Dec. 25 to Jan. 2.
Aragon Mills, Aragon, Ga., at least one week to include Christmas.
Republic Cotton Mills, Great Falls, S. C., week of Christmas for their print cloth mill.
Fisher Mfg. Co., Fisherville, Mass., all of Christmas week.
Pickett Cotton Mills, High Point, N. C., from Dec. 19 until Jan. 4.
Powdrell & Alexander, of Danielson, Conn., Christmas week.
Lydia Cotton Mills, Clinton, S. C., from Dec. 19 to Jan. 4.
Columbia Mfg. Co., Ramseur, N. C., full week to include Christmas.
Merrimack Mfg. Co., Huntsville, Ala., one week including Christmas.
Chadwick-Hoskins Co., Charlotte, N. C., one week including Christmas for group of mills under this management.
Entwistle Mfg. Co., Rockingham, N. C., all of Christmas week.
B. B. & R. Knight Corp., Providence, R. I., Royal and Grant Mills, Dec. 19 to Jan. 4.
Lonsdale Co., Seneca, S. C., Christmas week.
Anderson Cotton Mills, Greenville, S. C., all of Christmas week.
Hartsville (S. C.) Cotton Mills, Christmas week.
F. W. Poe Mfg. Co., Greenville, S. C., Christmas week.
Darlington (S. C.) Mfg. Co., Christmas week.
Spartan Mills, Spartanburg, S. C., Christmas week.
Gaffney (S. C.) Mfg. Co., Christmas week.
Joanna Cotton Mills, Goldville, S. C., last two weeks of December.

▸ J. C. Yarn Co. Moves to Larger Quarters

The J. C. Yarn Co., New York, has leased new and larger quarters at 109-111 Spring Street and 107 Mercer Street. The company handles silk and cotton yarns of all descriptions and will be located in its new quarters after Jan. 1, 1932.

▸ Textile Merchants to Hear Chas. M. Schwab

Charles M. Schwab is scheduled to be the principal speaker at the coming annual dinner of the Association of Cotton Textile Merchants, to be held in New York on the evening of Jan. 7.

South Hopeful for Remedy for Print Cloth Over-Production

From Textile World's Southern Office

ALTHOUGH admittedly no satisfactory solution of the over-production crisis in print cloths has been reached, manufacturers in the South appear hopeful that constructive developments are in the making. The statement made by one mill man that the evidence of the last two weeks had brought the industry much nearer to the possibility of effective curtailment was echoed in many quarters.

These events, however, have been potentially, rather than immediately, significant. The expressed intention of certain groups to curtail production 25% "as long as the industry as a whole will give full cooperation to this move," is regarded generally as far from adequate. It is pointed out that a 25% reduction of output by mills which have been operating from 125 to 135 hours per week is hardly commensurate with a similar percentage reduction on the part of mills which have been observing the 55-50 basis, and, in some cases, working on a single shift at that.

This suggestion of 25% curtailment has side-tracked, at least temporarily, the appointment of a stabilization committee proposed at the meeting between mill men and converters two weeks ago. James C. Self, president and treasurer of the Greenwood (S. C.) Cotton Mills, who was named chairman of the suggested committee, stated on Tuesday to a representative of TEXTILE WORLD that he was not going ahead with the appointment of the committee personnel as he regarded the curtailment move advanced by him and other manufacturers as sufficient in itself, if observed by the rest of the industry, to effect stabilization.

When asked specifically as to the basis for the 25% reduction, he stated that it entailed that much curtailment of the production schedules now in force in each mill. He pointed out that it had no relation to single or double shift, or to a theoretical number of hours per week, but, instead, to the schedules actually in effect at the present time.

Mr. Self also declared his willingness to go still further if the situation demanded, and, of course, if the industry generally would do likewise.

When asked how soon he thought such action would correct the unsatisfactory position of the print cloth market, Mr. Self expressed the opinion that uniform observance of 25% curtailment would produce that effect within a relatively short time. Incidentally, Mr. Self cited as evidence of his recognition of the importance of keeping production in balance with demand, the fact that he had put a 50% curtailment program into effect in his mills for five months during 1930.

In other quarters, it is believed that these offers of curtailment programs on the part of mills hitherto classified as "non-conformists" reflect a tacit endorsement of the tenet that reduction of output is the only way out. Consequently, while the so-called "conformists" have no cheers for the specific program proposed, they do feel heartened by its psychological implications.

◆

Business News

Scott & Williams Note Increase in Orders

A substantial increase in orders for knitting machines from both foreign and domestic markets was reported this week by Scott & Williams, Laconia, N. H., manufacturers of hosiery and underwear machinery. Laurence B. Holt, mill manager, said the step-up in orders will not call for increase in employees as the company is well staffed, but he added that working time will be doubled immediately.

Join Staff of Foster D. Snell

Harry J. Hosking has resigned his position in the research laboratory of the Roessler & Hasslacher Chemical Co. at Niagara Falls, N. Y., to take up similar work with Foster D. Snell, Inc., Brooklyn, N. Y.

W. C. Pinkerton has taken a position as industrial representative with Foster D. Snell, Inc. He was previously with the International Exposition Co.

John Anderson Becomes Secretary of G. E. Sales Committee

John Anderson, assistant to J. G. Barry, vice-president, has been appointed secretary of the sales committee of the General Electric Co., Schenectady, N. Y. Mr. Anderson succeeds E. G. Waters, who is retiring at his own request on the completion of more than 42 years' continuous service, the last 25 being as secretary of the sales committee.

Skinner & Sherman Establish Textile Research and Testing Dept.

Skinner & Sherman, Inc., chemists and engineers, Boston, Mass., have recently established a department of textile research and testing under the direction of M. W. Weiss. This department will consolidate the various services which Skinner & Sherman, Inc., have rendered the textile industry for a number of years, including the following: investigation of manufacturing problems; studies of costs and quality of materials; standardization of materials and specifications; elimination of waste; improvement of processing by application of chemical control; testing of new materials and processes; installation of mill laboratories; supervision of technical staff; chemical engineering services; chemical analyses of materials; physical tests of yarns and fabrics; microscopic examinations.

QUOTATIONS

at close of business, Dec. 16, 1931

Prices cover average qualities unless otherwise stated

Cotton Goods

	Dec. 16	Dec. 9	Dec. 17 1930
PRINT CLOTHS			
27 -in., 64x60, 7.60	2½c.	2 7/16-2½c.	3½-3⅝c.
38½-in., 64x60, 5.35	3½c.	3½c.	5-5½c.
39 -in., 68x72, 4.75	3½c.	3½c.	5½-6 c.
39 -in., 72x76, 4.25	4½c.	4½-4⅝c.	6½c.
39 -in., 80x80, 4.00	5c.	5 c.	7½-7⅝c.
BROWN SHEETING			
36-in., 56x60, 4.00	4½c.	4½c.	6½c
36-in., 48x48, 3.00	4½c.	4½c.	7 c.
37-in., 48x48, 4.00	3¾-4c.	3¾-4c.	5½c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	4½c.	4½c.	6c
36 -in., 64x60, 5.75	3½c.	3½c.	5c
MISCELLANEOUS			
Drills, 37-in., 3 yd..	4½c.	4½c.	7⅝c
Denims, 2.20	9½c.	9½c.	12½c
Tickings, 8 oz.	13 c.	13 c.	16 c
Standard prints	7 c.	7 c.	7½c
Eastern staple ginghams, 27-in.	7½c.	7½c.	8 c.

Cotton Waste

Peeler comber	5½ - 6
Peeler strips	5½ - 5¾
Sak. comber	4¾ - 5
Choice willowed fly	2¾ - 3¼
Choice willowed picker	2 - 3
Sak strips	6¼ - 6½
Linters (mill run	1¾ - 2½
White spooler (single)	4¼ - 4½

Cotton Yarn

CARDED (Average Quality)

Double Carded 2c.—4c., higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.13	22s	$0.16
10s	- .13½	24s	- .17
12s	- .14	26s	- .18
16s	- .14½	30s	- .19½
20s	- .15½	40s ex. qual.	- .28

TWO-PLY SKEINS AND TUBES

8s-2	$0.13½	26s-2	$0.18½
10s-2	- .13¾	30s-2	19- .19½
12s-2	- .14	36s-2	- .25
14s-2	- .14½	40s-2	- .27
16s-2	- .15	40s-hi.brk.	- .30
20s-2	15½ - .16	50s-2	- .35
24s-2	17½ - .18	60s-2	- .38

SINGLE WARPS

10s	$0.13½	24s	$0.17
12s	- .14	26s	- .18
14s	- .14	30s	- .19½
16s	- .14½	40s. ex.qual.	- .28
20s	15 - .15½		

TWO-PLY WARPS

8s-2	$0.13½-0.14	24s-2	$0.17½
10s-2	14 - .14½	26s-2	- .18½
12s-2	14½ - .15	30s-2	.19 - .20
14s-2	15 - .15½	40s-2 ordin.	- .27
16s-2	- .15½	50s-2	- .35
20s-2	.15½ - .16	60s-2	- .38

8s-2 and 4-ply skeins and tubes; tinged, 12; white, 13½; waste, 11½

HOSIERY CONES (Frame Spun)

8s	$0.13	22s	$0.16½
10s	- .13½	24s	- .17
12s	- .14	26s	- .18
14s	- .14½	30s tying	- .18½
16s	- .15	30s reg.	- .20
18s	- .15½	30s ex. qual.	21 - .22
20s	- .16	40s	- .27

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.25 - .26	60s-2	$0.40 - .43
30s-2	.28 - .30	70s-2	.52 - .54
36s-2	.32 - .33	80s-2	.63 - .65
40s-2	.33 - .34	90s-2	.85 - .90
50s-2	.37 - .38	100s-2	1.03 -1.05

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.26	60s-2	$0.42
30s-2	- .31	70s-2	- .55
36s-2	- .34	80s-2	- .63
40s-2	- .35	90s-2	- .93
50s-2	- .38	100s-2	-1.03

SINGLES

12s	$0.20	30s	$0.26½-0.28½
14s	- .20½	38s	- .31
16s	- .21	40s	- .32
18s	- .21½	50s	- .37
20s	- .22½	60s	.42 - .44
24s	.24½ - .25	70s	.55 - .56
28s	.26½ - .27½	80s	.65 - .66

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.36½-0.38½	90s-2	$0.90
30s-2	.38 - .40	100s-2	1.15-1.25
36s-2	.40 - .42	120s-2	1.50-1.60
40s-2	.42 - .44	30s	.51- .52
45s-2	.42½ - .44½	40s	- .56
50s-2	.45 - .47	50s	.61- .64
60s-2	.50 - .54	60s	.70- .73
70s-2	.64 - .66	70s	.80- .83
80s-2	.73 - .75	80s	.92- .96

Cotton Prices and Statistics

COTTON STATISTICAL DATA

(Fluctuations of Futures)

	Closed Dec. 10	For Week High	For Week Low	Closed Dec. 16	Net Ch'ge
December	5.90	6.06	5.85	6.07	+.17
January	5.96	6.11	5.88	6.10	+.14
February	6.05	6.18	6.05	6.17	+.12
March	6.15	6.29	6.07	6.28	+.13
April	6.24	6.36	6.24	6.36	+.12
May	6.33	6.49	6.25	6.48	+.15
June	6.41	6.54	6.41	6.55	+.14
July	6.50	6.65	6.41	6.66	+.16
August	6.58	6.72	6.58	6.74	+.16
September	6.67	6.81	6.67	6.82	+.15
October	6.75	6.91	6.67	6.92	+.17

SPOT FLUCTUATIONS FOR WEEK

(Middling)

	New York	New Orleans	Liverpool
Thursday, Dec. 10	6.05	5.99	5.29
Friday, Dec. 11	6.20	6.08	5.21
Saturday, Dec. 12	6.15	5.99	5.23
Monday, Dec. 14	6.15	5.99	5.07
Tuesday, Dec. 15	6.20	6.10	5.08
Wednesday, Dec. 16	6.20	6.07	5.11

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, Dec. 15		Change
Jan. Sak	12.40	—0.03
Dec. Uppers	9.35	+0.13

Dec.-Jan. Shipment c. i. f. Boston (Tariff not included)

Fully good fair Sak	11.35
Fully good fair to good Uppers	9.10

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cent
Peruvian Tanguis Strict Middling	17¼
Peruvian Pima No. 1	16
Peruvian Moderate Rough	13
Peruvian Full Rough	17
China Tientsin No. 1	10
India Rough	7 to 9½
India Smooth	6½ to 8½

(By Bruns-Nordeman Co.)

MOVEMENT INTO SIGHT

	This Year	Last Year	Year Before Last
Week	364,000	332,000	461,000
Season	9,016,000	9,550,000	10,109,000

WORLD VISIBLE SUPPLY

	Today	One Year Ago
Interior towns and ports of U.S.*	6,817,000	5,922,000
Afloat to and at ports of Europe	1,518,000	1,919,000
Afloat to and at ports of Orient	823,000	320,000
Total	9,158,000	8,161,000
	Decrease	Increase
Change during week	24,000	30,000

*Includes afloat to New York.

FORWARDING TO MILLS OF WORLD

	This Year Week	This Year Season	Last Year Week	Last Year Season
No. States, U.S.	17,000	315,000	28,000	332,000
So. States, U.S.	138,000	2,082,000	105,000	1,850,000
Total U.S.	155,000	2,397,000	133,000	2,182,000
Great Britain	33,000	426,000	22,000	351,000
Continent	95,000	1,185,000	96,000	1,370,000
Orient	103,000	951,000	46,000	424,000
Canada and other America	2,000	66,000	5,000	99,000
Total foreign countries	233,000	2,628,000	169,000	2,244,000
World total	388,000	5,025,000	302,000	4,426,000

EXPORTS FROM UNITED STATES

Total	344,000	3,338,000	141,000	3,509,000

AVERAGE PRICE DEC.-JAN., SHIPMENT HARD WESTERN COTTON

F.o.b. New England

	Middling	St. Middling
1 1/16-in.	8 - 8½c.	8½- 8¾c.
1⅛-in.	8½- 9¼c.	9¼- 9½c.
1 3/16-in.	9½-10½c.	10½-11c.
1¼-in.	12½-13½c.	13½-14½c.

Basis on New York, March, 6.26.

SPOT FLUCTUATIONS AND STOCKS

Markets	Dec. 9	Dec. 16	Sales	This Week	Last Year
Galveston	5.90	6.10	5,477	920,841	695,624
New Orleans	5.92	6.07	16,178	844,756	772,721
Mobile	5.50	5.70	2,763	232,817	180,264
Savannah	5.69	5.94	2,116	317,221	302,864
Norfolk	5.94	6.13	405	69,715	100,647
New York	6.00	6.20	4,275	225,212	230,547
Augusta	5.81	5.94	1,161	135,793	141,199
Memphis	5.35	5.50	57,943	482,062	399,676
St. Louis	5.50	5.70	.....	.....	11,452
Houston	5.80	6.00	25,220	1,617,416	1,471,765
Dallas	5.40	5.60	42,660	55,560	43,067

DIFFERENCES ON AND OFF MIDDLING WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	0.65†	.75†	0.75†	0.75†	0.72†
S.G.M.	.50†	.50†	.65†	.63†	.59†
G.M.	.40†	.40†	.45†	.44†	.42†
S.M.	.25†	.25†	.25†	.25†	.25†
S.L.M.	.30*	.25*	.30*	.25*	.28*
L.M.	.65*	.50*	.75*	.75*	.66*
S.G.O.**	1.00*	.75*	1.15*	1.13*	1.01*
G.O.	1.35*	1.00*	1.50*	1.50*	1.37*
YELLOW TINGED					
G.M.	0.30*	0.25*	0.30*	0.31*	0.30*
S.M.	.45*	.40*	.50*	.50*	.48*
M.**	.65*	.50*	.75*	.75*	.71*
S.L.M.	1.00*	.90*	1.15*	1.13*	1.08*
L.M.	1.35*	1.40*	1.50*	1.50*	1.47*
YELLOW STAINED					
G.M.	0.65*	0.60*	0.50*	0.50*	0.71*
S.M.**	.90*	1.10*	.75*	.75*	1.02*
M.**	1.35*	1.35*	1.15*	1.13*	1.48*
BLUE STAINED					
G.M.**	0.65*	0.35*	0.75*	0.75*	0.70*
S.M.**	1.00*	.85*	1.15*	1.13*	1.07*
M.**	1.35*	1.10*	1.50*	1.50*	1.45*

**Grades not deliverable on contract.
*Off Middling. † n Middling

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne.	$0.24 – $0.25	¾ blood	$0.23 – 0.24
Fine clthg	.20 – .21	¼ blood	.21 – .21½
½ blood	.23 – .24		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months	$0.55 – 0.58
California, Northern	.48 – .50

PULLED—EASTERN (CLEAN BASIS)

AA	$0.58 – $0.60	B-Super	$0.43 – 0.45
A-Super	.48 – .50	C-Super	.38 – .40

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Staple fine	$0.47 – 0.49
Staple ½ bld	.54 – .56
Fine and fine medium	.53 – .55
½ blood	.48 – .50
¾ blood	.41 – .43

MOHAIR—DOMESTIC

Best carding	$0.23 – 0.25
Best combing	.31 – .33

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 – 0.21
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
7s	$0.45 – 0.47
64s	.37 – .39
58s-60s	.33 – .35

(IN GREASE)

Montevideo:	
58s-60s	$0.17 – 0.18
56s	.16 – .17
50s	.15 – .16
Buenos Aires:	
4s, 40-44s	$0.11 – 0.12
5s, 36-40s	.11 – .12

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.19 – 0.20
China: Combing No. 1	.12 – .13
China Filling Fleece	.11 – .12
Szechuen ass't	.12 – .13
Cordova	.09 – .10
Scotch black face (nominal)	.14 – .16
East India: Kandahar	.15 – .16
Vican'r	.19 – .20
Joria	.19 – .20

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.75
2-24s 40s	– .80
2-26s 44s	.82½ – .85
2-28s 46s	– .87½
2-30s 48s	.92½ – .95
2-32s 50s	.97½ – 1.00
2-30s 64s fancy mixes	1.35 – 1.37½

(Single yarns 5c. less than above)

2-36s 58s	1.05
2-40s, 60s	– 1.20
2-40s, 64s	1.27½ – 1.32½
2-50s, 66s	1.40 – 1.45
2-60s, 70s	1.82½ – 1.85

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.70 – .72½
2-20s, 48s in oil	.72½ – .75
2-20s, 50s in oil	.75 – .80
2-20s, 56s in oil	.92½ – .95
2-20s, 60s in oil	– 1.00
2-20s, 64s in oil	1.12½ – 1.15
1-18s, 48s dyed	.90 – .92½
1-18s, 50s dyed	.92½ – .95

(Oil yarns 17½c. less)

FRENCH SYSTEM

1-20s, 58s	.97½ – 1.00
1-20s, 60s	1.02½ – 1.05
1-18s, 64s, dyed	1.25 – 1.27½
1-26s, 64s	1.07½ – 1.10
1-30s, 66s, Warp	1.12½ – 1.15
1-30s, 64s, Warp	1.15 – 1.17½
2-30s, 64s, Fancy mixes	1.35 – 1.37½
2-40s, 64s, Zephyrs	1.27½ – 1.30
1-50s, 66s	1.42½ – 1.47½
2-50s, 66s	1.50 – 1.55
1-60s, 70s	1.75 – 1.80
2-60s, 70s	1.90 – 1.95

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$0.95 – 1.00
1-40s, 50-50-60s on cops	1.10 – 1.15
1-40s, 50-50-64s on cops	1.12½ – 1.15
1-40s, 50-50-64s Australian cops	1.20 – 1.25

Underwear mixes, 3 to 5c., Solid color, 35c. additional.

New York Top Futures

	Closed Dec. 15	For Week High	For Week Low	Closed Dec. 9	Net Ch'ge
December	66.50	69.20	66.50	68.00	—1.50
January	66.50	68.00	66.50	68.00	—1.50
February	66.50	68.00	66.50	68.00	—1.50
March	66.50	68.50	66.50	67.00	—0.50
April	66.50	67.00	66.50	67.00	—0.50
May	66.50	67.10	66.30	67.00	—0.50
June	66.50	69.00	66.50	67.00	—0.50
July	66.50	69.00	66.30	67.00	—0.50
August	66.50	67.00	66.50	67.00	—0.50
September	66.50	69.00	66.50	67.00	—0.50
October	66.50	69.00	66.50	67.00	—0.50
November	66.50	67.00	66.50	67.00	—0.50

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$0.78 – 0.80
Half-blood (60-62s)	.72 – .75
High ¾ blood (58s)	.67 – .69
Aver. ¾ blood (56s)	.61 – .64
Low ¾ blood	.58 – .60
High ½ blood (50s)	.53 – .55
46s S. A. and N. Z.	.61 – .63
44s S. A. and N. Z.	.56 – .58
40s S. A. and N. Z.	.50 – .52

TOPS — BRADFORD, ENG. (DEC. 11)

Fine (70s)	26 d	¾ bld. (56s)	18½d
Fine (64s)	24½d	½ bld. (50s)	13½d
½ bld. (60s)	23 d	Cross-bred (46s)	11 d

NOILS — BOSTON

Fine	$0.31 – $0.34	High ½ bld.	$0.26 – $0.27
Half-bld	.30 – .31	Low noils	.21 – .23
Aver. ¾ bld.	.26 – .28	Medium colored	.22 – .24
Fine colored	.30 – .31		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.55 – .58
Lap, fine colored	.40 – .43
Hard ends, fine white	.41 – .43
Hard ends, ½ blood white	.30 – .32
Hard ends, fine colred	.18 – .20
Hard ends, medium colored	.13 – .15
Card, fine white	.22 – .24
Burr, fine carbonized	.23 – .25

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, coarse light	$0.05 – 0.05½
Merinos, fine dark	.03½ – .04
Merinos, fine light	.09½ – .10½
Serges, blue	.04½ – .05
Serges, black	.04½ – .05
Serges, red	.08 – .09
Knit, white	.18 – .19
Knit, red	.10 – .11
Knit, light hoods	.09½ – .10½
Worsted, light	.04 – .05
Worsted, blue	.05 – .05½
Worsted, black	.05½ – .06

Silk Yarns

THROWN SILK (60 day basis) Prices Nominal

Japan organzine, 2 thd. spec. gd. XX sk 85%	$3.55
Japan organzine, 2 thd. grand sk. 83%	3.35
Japan organzine, 2 thd. sp. crack. sk. 81%	3.20
Japan crepe, 3 thd. gd. XX bob. 83%	3.35
Japan crepe, 3 thd. sp. crack. bob. 81%	3.25
Japan grenadine, 4 thd. sp. grand singles, 87%	4.45
Japan grenadine, 3 thd. 90%	5.35
Canton crepe, 3 and 4 thd. 14/16 on bobbins	2.50
Hosiery tram, 3 thd. Japan 90%	4.20
Hosiery tram 5 thd, Japan, 85%	3.25
Hosiery tram, crack XX 78%	2.95

SPUN SILK YARNS (Terms: net 30)

40/2	$3.10	60/2	$3.45
54/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods) Prices Nominal

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 87%	$2.65	$2.15	$2.15
Special Grand, 85%	2.40	2.10	2.10
Grand XX, 83%	2.25	2.05	2.05
Special Crack, 81%	2.15	2.00	2.00
Crack XX, 78%	2.05	1.95	1.90
Extra Extra, 73%	2.00	....	....
Best Extra, 68%	1.95	....	....

Canton filature, new style, 14/16	$1.65
Canton filature, new style, 20/22	1.60
Tussah filature, 8 cocoon	.92

NATIONAL RAW SILK EXCHANGE

	Close Dec. 9	For the Week High	For the Week Low	Close Dec. 15	Net Ch'ge
December	2.05	2.05	1.83	1.85	—.20
January	2.07	2.08	1.79	1.81	—.26
February	2.09	2.11	1.81	1.85	—.24
March	2.11	2.11	1.82	1.86	—.25
April	2.10	2.11	1.82	1.86	—.24
May	2.11	2.12	1.82	1.87	—.24
June	2.11	2.12	1.82	1.86	—.25
July	2.11	2.11	1.82	1.87	—.24

Total number of bales, 12,940. Total approximate value, $3,958,346. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
30	8	$2.25	...
50	12-18	1.35	$1.25
75	18-30	1.20	1.10
100	18-40	1.00	.90
125	36-50	.90	.80
150	30	.72	.70
150	24-44	.75	.72
150	60	.85	.82
150	75-90	.85	.82
170	24-27	.75	.72
170	60	.85	.82
200	30-42	.75	.72
300	42-62	.63	.60
450	42-72	.63	.60
600	72-96	.63	.60
900	100-144	.63	.60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	75	60	$1.30
25	24	2.85	80	60	1.30
30	24	2.60	100	75	1.10
40	30	1.70	120	90	1.00
52	30	1.50	150	112	.90
65	45	1.40	180	135	.87

ACETATE PROCESS

Denier	Price	Denier	Price
45	$1.60	125	$1.10
60	1.50	150	1.00
75	1.40	300	1.00
100	1.30		

Rayon Waste

Open bleached waste	$0.13–$0.14
Open bleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06– .07
Colored thread waste	.03– .04
Colored clips	.03– .04

CONVERTED RAYON WASTE

Bleached tops	$0.30–$0.32½
Unbleached tops	.27– .28
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10– .11

Silk Waste

Kibizzo Kakai Grand XX	$0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49
Pierced Cocoons	.50

GATE CITY
COTTON MILLS
WHITE KNITTING YARNS ON CONES

SOLD DIRECT

P. O. BOX 1677

ATLANTA, GA.

J. B. JAMIESON COMPANY
The Yarn House of New England

38 CHAUNCY ST. BOSTON, MASS.

YARNS COTTON AND RAYON

TILLINGHAST-STILES CO.
COTTON YARNS

Providence, R. I.

377 Broadway, New York

Room 922, Utilities Bldg., 327 So. LaSalle St., Chicago

HALLIWELL

DYEING—BLEACHING—MERCERIZING
Cotton Yarns

Warps and Skeins
Mercerizing—Warps Only

Modern Facilities—40 Years' Experience

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THE HALLIWELL COMPANY
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COTTON YARNS OF QUALITY
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1518 Walnut St. Sole Representative Philadelphia, Pa.

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Cotton Yarn and Warps *Carded and Combed*
White and Colored Single and Ply
Sell Direct
DANA WARP MILLS, Westbrook, Maine

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Established over 91 Years

KROUT & FITE MANUFACTURING CO.
Manufacturers of
Cotton and Mercerized
Narrow Fabrics, Webbings
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PRACTICAL
MILL CONSULTANTS
The Textile Development Co.
Sidney S. Paine, *President*
80 Federal St., Boston, Mass.
Southern Office: 1001 Jefferson Standard Bldg., Greensboro, N. C.

UNFAILING UNIFORMITY

Unfailing uniformity in textile processing is one of the outstanding results shown by the use of Wyandotte Textile Alkalies. Such uniformity, so necessary a part of textile manufacture, is made possible only by the fact that Wyandotte never varies in composition or quality.

Consequently the user of Wyandotte Textile Alkalies can always be sure of exactly the same results. Mills everywhere are learning what this means in added operating efficiency.

Order from your Supply Man or write for detailed information.

Wyandotte
Quality and Service
Textile Alkalies

The J. B. FORD COMPANY
Sole Mfrs.
Wyandotte, Michigan

For Your Convenience

TEXTILE WORLD, 330 W. 42d St., New York

Gentlemen:—I sure would like to have a complete file of TEXTILE WORLD to keep at my home. Enclosed please find $4.00 in full payment for the next 52 issues which please send to my home address as follows:

Name .....

Street .....

City ..... State.....

I am..... with ..... Company

Key FYC

GET MORE CLOTH
SAME LABOR COST
ON X MODEL LOOM

DRAPER CORPORATION

Hopedale Massachusetts

Southern Offices **Atlanta Ga and Spartanburg S C**

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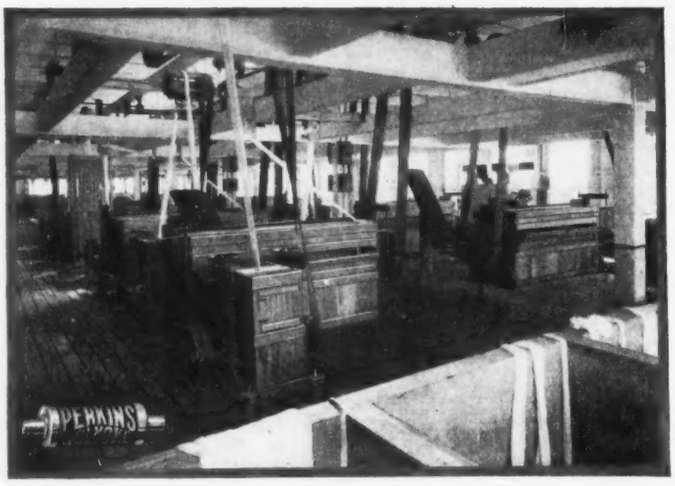
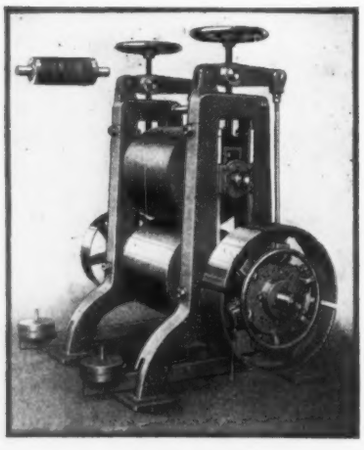
PERKINS Bleach House Equipment

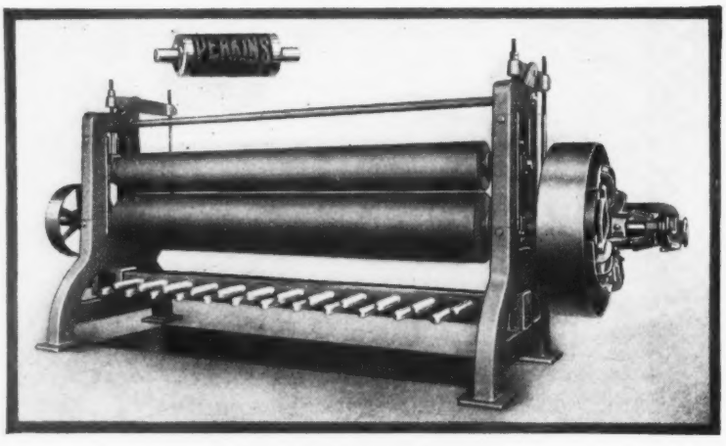
Perkins builds the highest grade of Washers and Squeezers, equipped with either plain or roller bearings.

They are extremely flexible in design and outstandingly rugged in construction.

The photographs show this equipment as recently installed in two of the most modern finishing plants in the country.







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Engineers and Manufacturers

Southern Representative: Fred H. White, Independence Bldg., Charlotte, N. C.

PERKINS HOLYOKE

TRADE MARK REG US PAT OFF.

Rolls—Cotton, Paper, Husk, Combination, Cotton and Wool

Calenders	Dyeing Machines	Singers
Drying Machines	Padders	Squeezers
Starch	Ranges	Tenters
Water and Tommy		Washers
Dodd Mangles	Scutchers	Winders

The NEW C & K Precision Family of Looms

Crompton & Knowles Loom Works realizes that there are enough looms of most types already in existence, and consequently is committed to the policy of recommending, not an increase in the number of existing looms, but a replacement of old looms with fewer and more efficient new ones.

The NEW C & K Precision Family does not represent a redesigning of old looms but entirely new construction along automotive principles, with roller bearings and simplified parts.

At first glance the layman might think the looms not radically different from the old. But the millman instantly sees the carefully machined surfaces that mark the definite departure from the rough castings that have been characteristic of loom manufacture. Incidentally, these machined surfaces bespeak the tremendous investment and modernization which Crompton & Knowles had to make in its own production equipment as a prerequisite to this new loom.

We are glad through this modernization of *our* plant to give you *better looms* for *less money.* These same precision looms can give you a *better product* at *less cost.*

THE NEW C & K PRECISION FAMILY

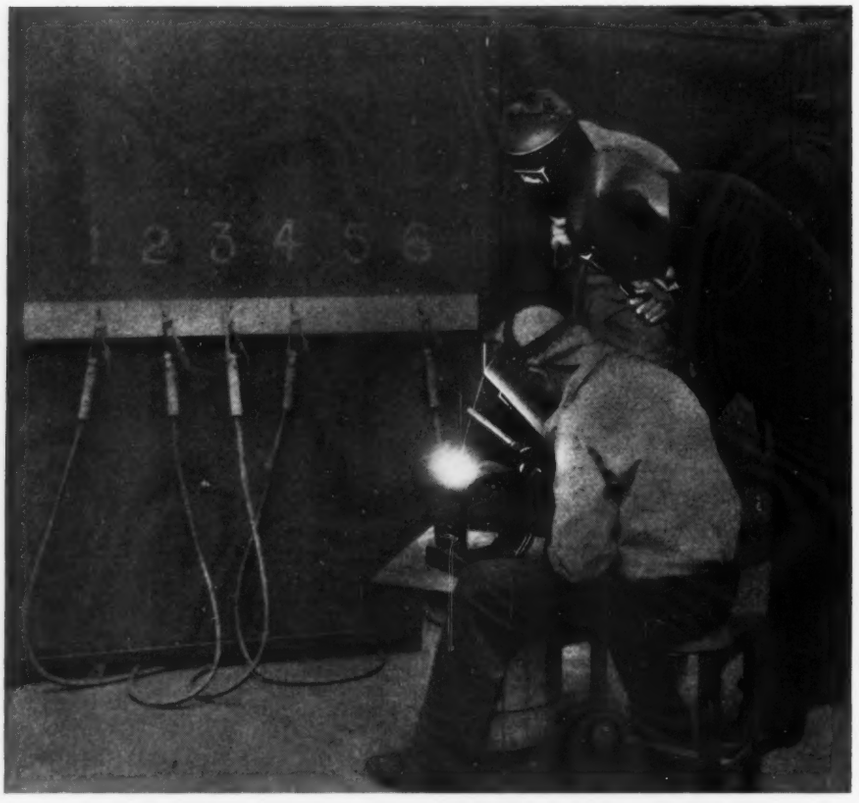
High Speed Worsted	*Super Silk*
4 x 1 Automatic; 4 x 4 Non-automatic	Cone, dobby or intermediate head
Cotton King— Cam or dobby	Non-automatic with feeler motion
2 x 1 and 4 x 1 bobbin changing	2 x 1 or 4 x 1 bobbin changing
2 x 1 and 1 x 1 shuttle changing	2 x 1 shuttle changing

PRECISION PRINCIPLES OF CONSTRUCTION ALIKE IN ALL

CROMPTON & KNOWLES LOOM WORKS

WORCESTER - PROVIDENCE

"THE PROOF OF THE PUDDING"



THE NEW G-E ARC WELDER

Combines and excels all the best features of all the good welders now on the market... plus new features all its own.

1. Stable, flexible arc
2. Quick recovery ("pep")
3. Self-excitation
4. Spark-free commutation
5. Simple operation
6. Duplex voltage control
7. Dead-front control panel
8. Large, protected instruments
9. Light, compact, strong construction
10. Low center of gravity
11. A definite purpose for every ounce of material

WE ASKED many skilled operators to try the new G-E arc welder — not only try it, but compare it with five other reputable types of arc-welding sets.

But, in order that trade names, individual preferences, etc., might not influence the operator, the six machines were placed behind a screen and adjusted for identical welding conditions. Unidentified leads were brought out and the operator was given the opportunity to weld from each set of leads with no restriction as to method or time.

As a result of this test, the new G-E arc welder was awarded first place by 75 per cent of the operators, and second place by the other 25 per cent.

This was but one of the many long and exacting tests to which the new welder was subjected before General Electric placed its monogram upon it. This is another reason why we say, "Buy no welder until you have thoroughly investigated through your nearest G-E office."

530-118

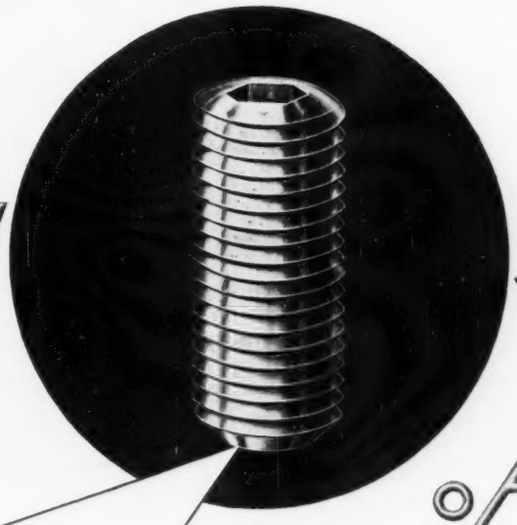
GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

NEW ALLEN

TRI-MARKT
TRADE MARK

HOLLOW SCREWS



of Chrome-Mo-lyb-den-um

50% STRONGER

25% HARDER

than former ALLEN SCREWS

THIS STEEL *with a special heat-treatment* provides material for the new Allen screws surpassing in strength and practical economy any hollow screws commercially obtainable. . . Tensile strength, on Olson Machine, is 50% greater than former Allen-made screws. The Rockwell Hardness Tester records a 25% gain in hardness. . . The new screws are now to be had in the popular sizes; milled from the bar, with cut threads multi-checked for accuracy. Each screw hand-inspected; every one a GOOD one; a new screw if you break one. Free samples on request, or a Representative will demonstrate at your mill.

THE ALLEN MFG. COMPANY

HARTFORD, CONN. U. S. A.

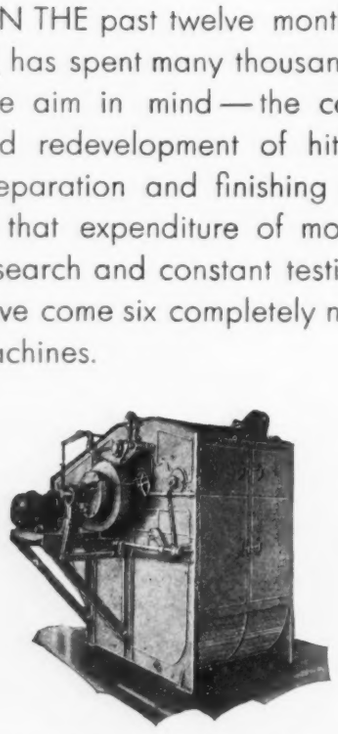
SIX Outstandingly

is HUNTER ACHIEVEMENT FOR 1931

Some of Them Revolutionary
All of Them as Modern as Your Latest Process

IN THE past twelve months or so, Hunter has spent many thousands of dollars with one aim in mind — the complete redesign and redevelopment of hitherto unchanged preparation and finishing equipment. Out of that expenditure of money, engineering research and constant testing and checking have come six completely new and different machines.

Some of these units have actually revolutionized old ideas of production per machine and manufacturing efficiency. All of them are as modern as your latest process, and all of them offer the alert mills radically different ways of reducing operating costs. Compare the machines described briefly below with any similar units now familiar to you — and judge for yourself.



An Iron-Clad Fulling Mill

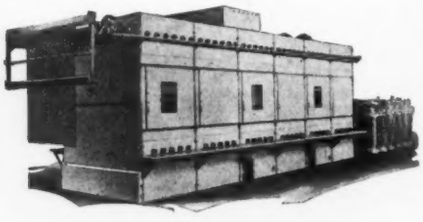
That Does the Work of 2 to 4 Fulling Mills

Developed in 1930 and brought to its present point of perfection in 1931, Hunter Iron-Clad Mills represent the century's outstanding advance in Wet Finishing. Installed in many outstanding woolen and worsted mills, these Iron-Clad Cypress Lined machines are not only drastically cutting fulling time, but they are giving a more uniform quality of felting. They do the work of 2 to 4 wooden mills and do it quicker and better. They afford complete mechanical control of shrinkages and an easy means of duplicating any desired result. A size for any fulling requirement.

The Iron-Clad Washer

Saves 30 to 60 Minutes Per Set

Number two in Hunter's equipment development plan was the Iron-Clad Cypress Lined Model H Washer employing every known modern device for improved operation. A New Hampshire mill scouring 18 oz. woolens saves 1 hour's scouring time per 6 string set. A Canadian Mill on heavy scoured goods saves 30 minutes per set. In brief, the Model H Iron-Clad Washer offers you faster and cleaner washing, elimination of repairs, and operating adjustments that can be made *while the washer is in operation*. In other words the Model H is in tune with the times—faster washing at lower cost.



The Hunter Continuous Range Cloth Carbonizing Unit

Number three in Hunter's machine development plan was an outstanding Continuous Range Cloth Carbonizing Unit consisting of the Hunter Interchangeable Acid Tank, Acid-Proof Vacuum Extractor and all-metal Carbonizing Dryer operating in complete synchronization. Mills using it have greatly simplified operations and substantially reduced costs through (a) reduced labor, (b) elimination of acid waste, (c) improved quality and (d) increased production at low steam consumption. Each unit individually designed to meet the mill's individual requirements. Descriptive booklet free on request.

FOUNDED 1847
NORTH ADAMS, MASS.

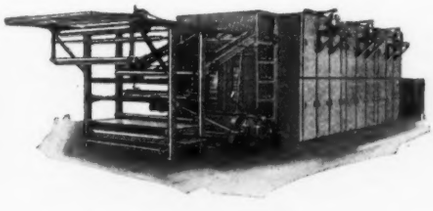
JAMES HUNTER

New Machines!

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS.

Let Us Show You How Improved Equipment Reduces Cost To Manufacture

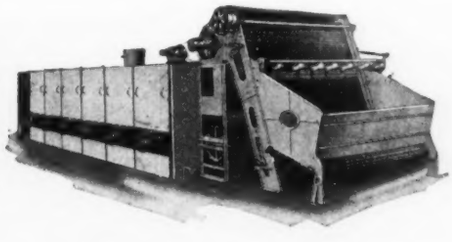
Hunter has available important facts and figures on every one of the machines described to prove to you exactly how improved equipment will pay for itself and make money for you. For example: how you can eliminate 2 to 4 wooden fulling mills, how you can better than double your present tentering with half your present labor and probably half your present steam consumption, how you can cut scouring time, how you not only radically reduce carbonizing costs but increase production with **less** labor. Hunter service is **engineering** service and it is valuable and free of charge to any mill requesting it.



An All-Metal Cross Draft Tenter

Capable of 38 Yards Per Minute Production

With the new All-Metal, Cross Draft, Cloth Tenter, Hunter makes available high speed tentering outputs as high as 38 *yards per minute.* A cloth dryer from which the human element and its tendency to error has been eliminated. It is *automatic*; only one operator is required. It is standardly equipped with automatic guides, selvedge opener, chain oiling and cleaning, safety mechanisms, temperature control, humidity control, remote drive control, vacuum extractor, etc. A dryer that permits you to put cloth tentering on a piece work basis. Will do the work of two to three old tenters and reduce labor attendance 50% or more.



A Completely New Individually Motor Driven Raw Stock Dryer

The new HUNTER Individually Motor Driven Single Apron Stock Dryer. The chief operating refinement of this efficient and compact unit is the use of motor drives direct to the fan in each section .... affording 6 important advantages:

1. Each fan motor separately controlled.
2. Not necessary to shut down dryer for fan repairs as required by other type drives.
3. Not a single bearing runs in the heat.
4. Complete elimination of all pulleys, belts, and overhead counter-shafting.
5. Horse power lower than other previous types of drives.
6. Average steam consumption 1.5 lbs. per lb. of moisture evaporated.

Descriptive booklet free on request.

A Solid Metal Dye Kettle

Stain-Proof, Leak-Proof, Wear-Proof

The newest Hunter development is the Solid Metal, Nickel-Clad Steel, Stain-Proof and Leak-Proof Hunter Piece Dye Unit. A fit companion unit to the Hunter Iron-Clad Mills and Washers. No wood to rot or replace. No corrosion, no chipping, no flimsy metal lining to buckle and leak. No need for boiling out when changing colors; a thorough rinse and you are ready for the next set. A few additional advantages: impervious to ordinary dyes, equipped with Monel Metal main reel, and delivery reel, handwheel adjusted 10" rubber squeeze rolls, heavy duty roller chain, splash guards, etc. Truly a kettle for lower dye house costs. Full price data on request.

MACHINE CO.

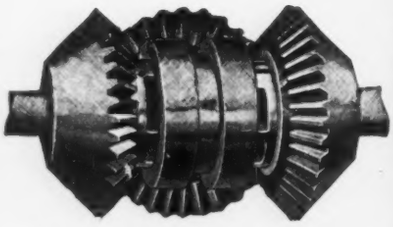
FOUNDED 1847
NORTH ADAMS, MASS.

THE JOHNSON FRICTION CLUTCH

JOHNSON CLUTCH BEVEL GEAR INSTALLATIONS OPERATE SATISFACTORILY

Thirty No. 6 Standard Single JOHNSON Friction Clutches are mounted on the lineshaft directly over the Dye Mixing Tubs in Fine Colors Company's plant at Paterson, N. J. These tubs are sometimes called mixing kettles, or agitators, and are seven feet in diameter. The clutches are used with bevel gears to drive the kettles from the lineshafting. They give highly satisfactory results.

Single Clutch Exterior



Single Clutch instead of the Double shown here used with bevel gear.

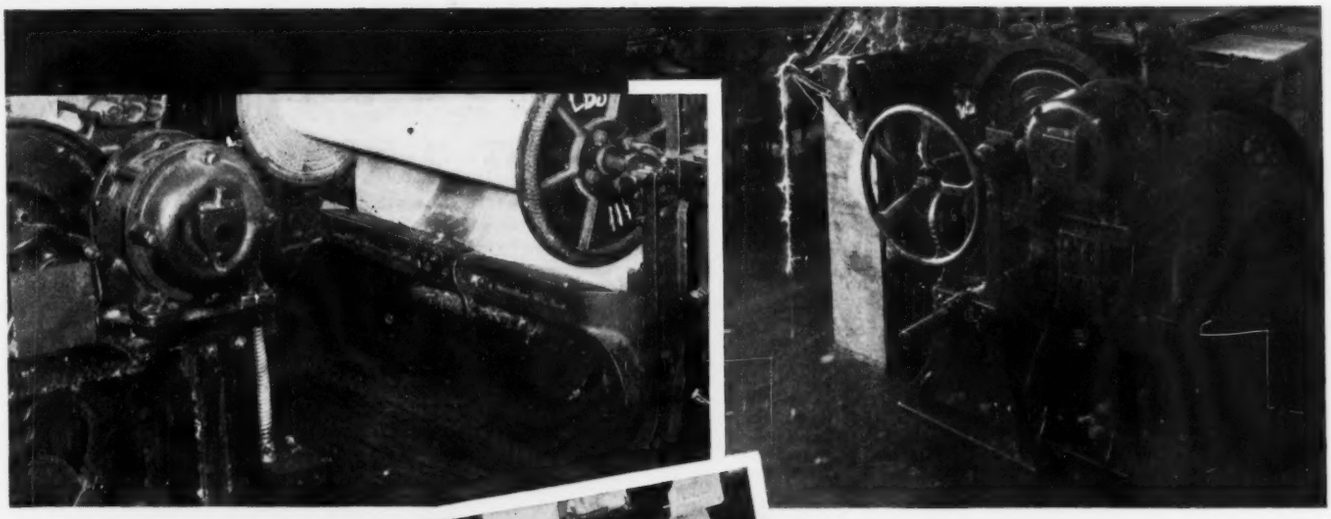
COURTESY: Fine Colors Company, Paterson, N. J.

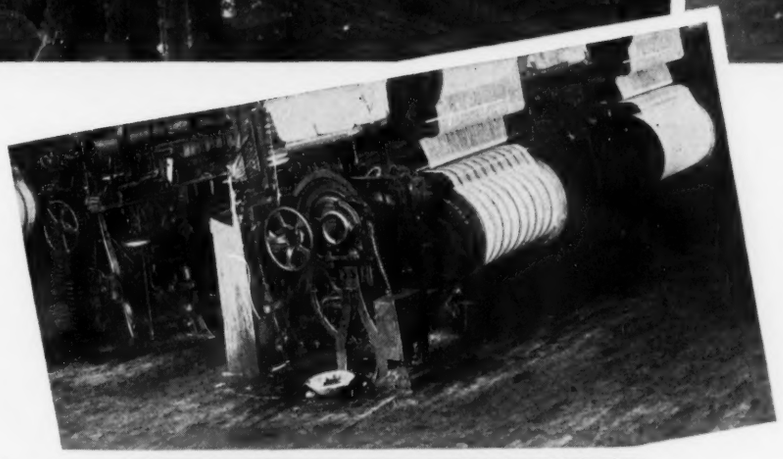
Use the SUPER-JOHNSON clutch on drives where high speeds, starting heavy loads, excessive slipping or continuous engaging is required of the clutch.

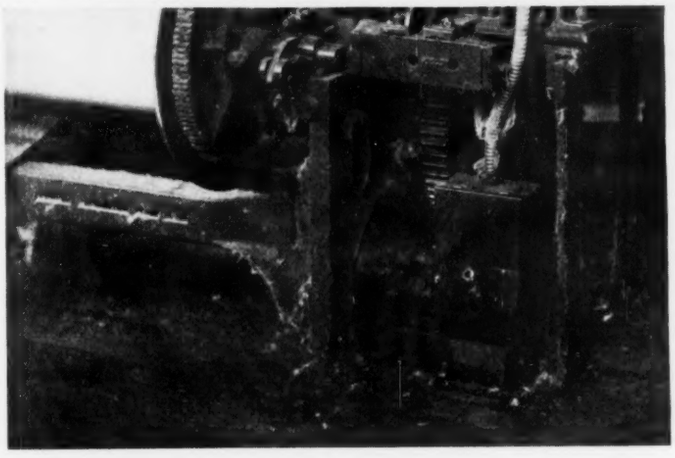
* * * * * "The JOHNSON Clutches are all right, and undoubtedly more manufacturers in our line would use them if they knew about them." I. J. ACKERMAN, President Fine Colors Co.

SEND FOR CATALOG "VIOLET-124"

THE CARLYLE JOHNSON MACHINE CO. MANCHESTER CONN.







Here is the EVIDENCE

Lint-covered, oily machines and stained floors are sure evidence of oil-spotted product — already gone through the machines — but leaving a trail of lowered profits due to goods sold at a mark down.

NON-FLUID OIL stops this waste at once — it is so adhesive that *it does not waste or spatter* — keeps bearings well protected from wear and will not get on goods in process.

Good News — the cost is less — for NON-FLUID OIL lasts so much longer per application than liquid oil that it actually reduces lubricating cost per hour — while permitting your product to be sold at its full value.

Get the whole story — send coupon for testing sample and bulletin, "Lubrication of Textile Machinery."

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Better Lubrication
TRADE MARK REGISTERED
NON-FLUID OIL
IN U.S. PAT OFFICE & FOREIGN COUNTRIES
at Less Cost per Month

COUPON

N. Y. & N. J. Lubricant Co. — TW-12-26-31

Please send bulletin and sample of NON-FLUID OIL.

NAME_____

FIRM NAME_____

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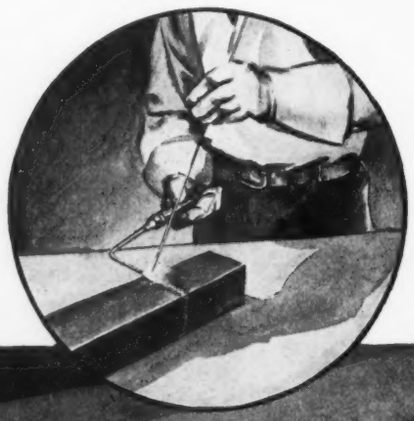
Here's ANOTHER PREST-O-WELD FEATURE

THAT SAVES YOU MONEY

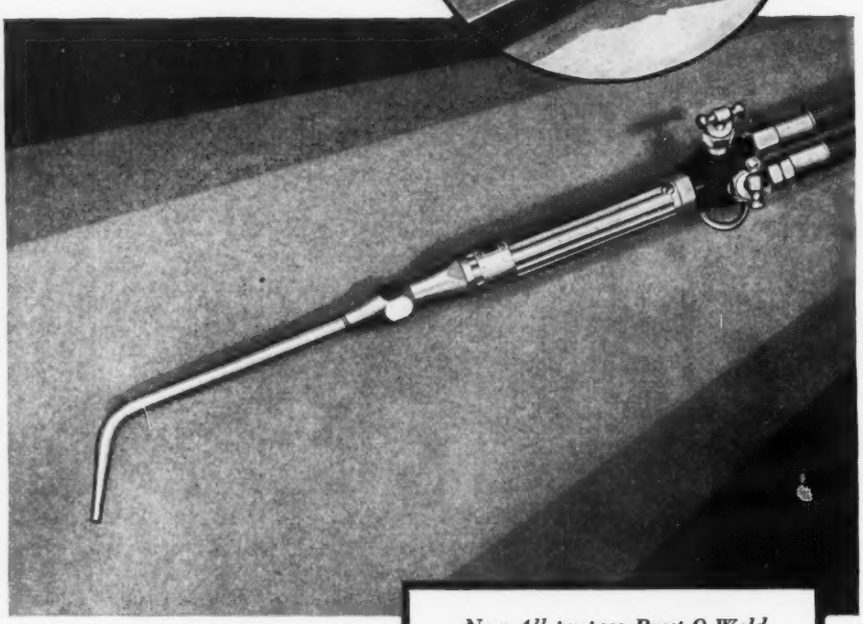


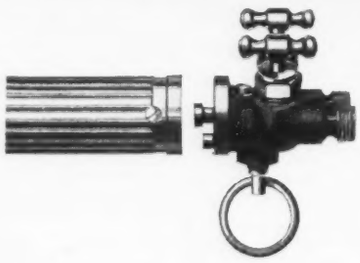
Prest-O-Weld Blowpipe Tips can be bent to the angle most suited to your work.

PREST-O-WELD Type W-105 Welding Blowpipe Tips are made of special seamless copper tubing which can be bent to any angle you require. This feature saves you money because it makes one set of tips suitable for every type of work. Large investments in tips of various angles are unnecessary.

Similar money-saving features are built into all Prest-O-Weld equipment. Manufactured by the largest makers of oxy-acetylene welding and cutting apparatus, Prest-O-Weld Blowpipes combine scientific design with features which make them economical for users who wish to keep their apparatus investment as low as is consistent with good work.

Any Prest-O-Weld jobber will be glad to explain the time- and money-saving features of Prest-O-Weld Blowpipes.





The Prest-O-Weld Detachable Valve Body makes it possible to change blowpipes in ten seconds.

New All-purpose Prest-O-Weld Blowpipe—Type W-105

The new Prest-O-Weld Type W-105 Welding Blowpipe with the Prest-O-Weld Detachable Valve Body is ideal for mill and factory maintenance—for general all-around welding in garages and machine, blacksmith, boiler and job welding shops—and as a production tool in the manufacture of metal products. An assortment of ten different sizes of tips gives it a wide range of usefulness.

Prest-O-Weld Type W-105 Welding Blowpipe complete with any five tips, lighter and wrench...$27.00

Prest-O-Weld Type W-105 Welding Blowpipe handle assembly, with tips and accessories as above but without valve body.....$19.00

PREST-O-WELD

WELDING AND CUTTING APPARATUS

THE LINDE AIR PRODUCTS COMPANY

Unit of Union Carbide and Carbon Corporation

126 Producing Plants — UCC — 627 Warehouse Stocks

IN CANADA, DOMINION OXYGEN COMPANY, LTD., TORONTO

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LINDE OXYGEN · PREST-O-LITE ACETYLENE · OXWELD APPARATUS AND SUPPLIES · UNION CARBIDE

the modern and efficient washing agent

Superior in its washing action to the best soaps.

Not affected by lime in water of any degree of hardness.

Prevents the precipitation of lime soaps of ordinary soaps.

Redissolves precipitated lime soaps.

Cleans wool without felting.

Possesses good cleansing action in an acid bath.

Woolens washed with Igepon A can be dyed without trouble.

Removes dirt, fats, mineral oil, soap residues and free fatty acids.

Improves the fastness to rubbing of wool and cotton dyeings.

Its use makes possible a saving of time in the washing process.

GDC

GENERAL DYESTUFF CORPORATION

230 FIFTH AVENUE, NEW YORK, N. Y.

for Silk

To bring out all the beauty and softness of silk and insure careful handling throughout the many processes from raw silk to the finished goods, use these Laurel Brand Products—

Pure Green Olive Oil Soap for boiling off
Laurel SXG Oil for throwing
Laurel Silk Oil 107 for throwing
Laurel Boil-off Oils
Laurel Silk Oil BW for softening
Nostik Finish for hosiery finishing
Hetrosol for finishing and scroop

for Cotton

To retain all the desirable qualities of your cotton fibres and release all the impurities, and thereby secure the best prices for your cotton yarn, knitwear or hosiery, use these Laurel Brand Products—

Laurel Textile Oil
Laurel Cotton Lubricants
Olive Savon Oils
Laurel Soluble Pine Oils
Laurel Cream Softener WN
Laurel SXG Oil
Hydrosol
Ruxite for softening

You can successfully treat any of these fibres or any combination of them with

Laurel Brand

Olive Fig Soap for scouring
Laurezol
Laurel Soluble Pine Oils
Hydrosol
Pure Green Olive Oil Soap
Laurel Olive Oil Emulsions
Etc., etc., etc.

Laurel Rayon Size
Laurel Crystal Rayon Oils
Laurel Boil-Off Oils
Pure Green Olive Oil Soap
Laurel Soluble Pine Oils
Hydrosol
Laurel Textile Oils
Ruxite

for Wool

To remove all grease, oils and impurities from raw wool and worsteds without injury, without loss of softness, use the Laurel Brand Products listed above.

for Rayon

To insure clean, soft rayon yarn without loss of flexibility or silk-like lustre, use the Laurel Rayon Processing Products listed above.

Laurel Laboratories have successfully solved treating problems of the Textile Industry for over 20 years. This experience is available to you. Write us for further information on how Laurel Products can save you money by giving you better treating results. No obligation, of course.

Laurel Soap Mfg. Co.

INCORPORATED

WM. H. BERTOLET & SONS

2606 EAST TIOGA ST. :: :: PHILADELPHIA, PA.

Textile Treatment Specialists since 1909

BECCO Inaugurates
New Method of Shipment . . .

. . . bringing new economy to the BECCO process

Becco Popularity Demands Tank Car Transportation

BLEACHERS of a generation ago would have said this impossible. Even four years ago when BECCO was introduced to the arts in the United States and Canada, tank car shipments seemed beyond the realm of possibility. Yet so rapid has been the spread of BECCO popularity that today the transportation of hydrogen peroxide has been revolutionized!

To meet a growing demand, the 8,000 gallon tank car shown above (carrying the equivalent of 80,000 pounds of shipper's peroxide) is now making regular deliveries of BECCO to mills of leading importance. And additional similar tank cars are at present under construction.

An idea of the economy of this new method of transportation is gained by the fact that it would take three carloads of ordinary carboys to carry an equivalent volume of peroxide.

Has your plant discovered the reasons for BECCO'S popularity, the reasons that made tank car shipments imperative?

Write for full particulars to the Buffalo Electro-Chemical Co., Buffalo, N. Y. Branches in Boston, New York, Philadelphia, Chicago, Charlotte, Toronto, Montreal.

BECCO
Electrolytic
HYDROGEN PEROXIDE

UTICA

John Hamilton — I defy you
7 out of 10 Brides last year
made this mistake
TAKE THE Guesswork out of buying sheets
Now . . . long Utica Triple Six sheets at less than you used to pay for short ones
UTICA TRIPLE SIX SHEETS
CORRECT LENGTH FOR CORRECT BED-MAKING

Specimens of the advertising that is selling UTICA *Sheets*

Uses advertising

The Utica Steam and Mohawk Valley Sheet Mills put the cart before the horse. In looking around for new advertising ideas to sell their bed sheets they hit upon a new merchandising plan that goes back into the mills where their products are manufactured and styled.

Investigators interviewed women to find out what they liked and didn't like about sheets. They reported general dissatisfaction with the length of sheets but found few women who knew how long a sheet should be to keep a sleeping soul comfortably tucked in. So they devised a new trade-mark for their long sheet and proceeded with an advertising campaign to tell women about it. All of which was a good idea for the cotton grower, the mills' employees and the retailer as well as the consumer.

Men who use advertising themselves are alert to YOUR advertising . . . .

Manufacturers of textile machinery and equipment have employed the same painstaking research in providing the textile industry with improved manufacturing methods. In fact their contribution makes it possible for textile manufacturers to exercise their merchandising talents. But what about selling all this modern machinery and equipment?

Naturally a new machine or idea is a harder thing to sell than an established product. Yet if it is profitable business to invest a fortune in research and engineering to develop equipment for only a few mills, profits can be multiplied by every additional mill that goes on your list of customers.

Advertising, properly conceived and properly executed, is primarily a force for multiplying customers. That it works is being proved every day. Your own customers are proving it in the home-consuming field where tastes are finicky and distribution is a difficult matter to control. Consider, then, the comparative economy and simplicity of advertising in a field like the textile industry where production requirements are similar and where customers are numbered in thousands instead of millions. In this concentrated field advertising can do more than build sales; it can, through the simple procedure of concentrating on the best prospects, increase net profits. Wasteful advertising calls are reduced to a minimum.

Give your customer's prescription the same fair trial he is giving it—in the publication that he reads consistently.

AS an example of the way Textile World's circulation is concentrated in the kind of mills that are prospects for machinery and equipment, 30 subscriptions go into the Utica Steam and Mohawk Valley Sheet Mills. If you wish to test the coverage of Textile World in other mills and in different branches of the textile industry we shall be glad to check any list that you supply. Of course you are invited to look over our circulation records at any time.

Textile World

THE NEWPORT COLORS

Vat Dyes

ACID ANTHRAQUINONE COLORS

Newport Acid Anthraquinone Colors are distinguished by excellent fastness properties on woolens, worsteds . . . . in women's and men's wear, carpets, and wherever superior fastness is desired.

NEWPORT
REG. U.S. PAT. OFF.
"COAL TO DYESTUFF"

E. I. DU PONT DE NEMOURS & CO., INC.

Successor to

NEWPORT CHEMICAL WORKS. INC.

Passaic, New Jersey

BRANCH OFFICES AND WAREHOUSES

Boston, Mass.
80 Broad St.

Providence, R. I.
32 Custom House St.

Philadelphia, Pa.
437 E. Allegheny Ave.

Greensboro, N. C.
226½ N. Forbes St.

Canada
Castle Bldg.
Montreal, P. Q.

Chicago, Ill.
605 W. Wash. Blvd.

Greenville, S. C.
Chamber of Commerce Bldg.

Newnan, Ga.
186 Jackson St.

ES This is the versatile machine that's paying its way in more and more substantial concerns every day. ES puts new activity into the making and selling of fancy half hose, for it offers an unequalled variety in fine designs and colors.

The exclusive tailored "Gussetoe" is an ES feature, too.

"THIS IS THE SCOTT & WILLIAMS MACHINE AGE"

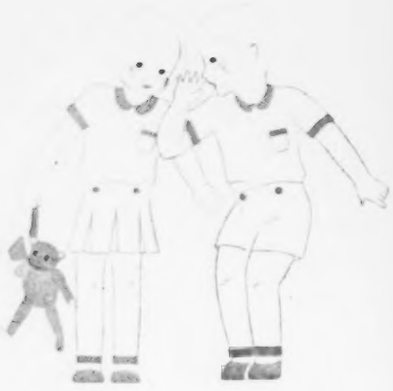
Established 1865

SCOTT & WILLIAMS

INCORPORATED

366 BROADWAY, NEW YORK, N. Y.

Mesh Hose on the Standard Model H



For all-over mesh or 8 or 10 step pattern mesh hose—the Standard Model H machine with attachment No. 42 (right hand trick wheel).

For reverse plated patterns with mesh patterns—the Standard Model H machine with attachment No. 43 (double trick wheel).

This versatile machine also produces half hose and children's hose with reverse plated patterns in and around mesh patterns. And in children's self-top hose, the Standard Model H makes possible a reverse plated pattern of one design for the top, and a mesh pattern of another design for the body, or vice versa.

A most interesting machine . . . may we give you more of the particulars?

STANDARD TRUMP

STANDARD MODEL H

STANDARD-TRUMP BROS. MACHINE CO.

INCORPORATED

366 BROADWAY, NEW YORK, N. Y., U. S. A.

WILDMAN

SPRING NEEDLE BODY MACHINE

WILDMAN
THE WORLD'S STANDARD